ABSTRACT

INFLUENCE OF LINK STRUCTURE ON SEARCH ENGINE RESULT PAGES OF ONLINE NURSERY SHOPS

The primary objective of this thesis is to assess how the backlink portfolio structure and off site Search Engine Optimisation (SEO) elements influence ranking of UK based online nursery shops. The growth of the internet use demanded significant effort from companies to optimize and increase their online presence in order to cope with the increasing online competition. The new E-Commerce technology - called Search Engine Optimisation - has been developed that helped increase website visibility of companies. The SEO process involves on site elements (i.e. changing the parameters of the company's website such as keywords, title tags and meta descriptions) and off site elements (link building and social media marketing activity).

Link Building is based on several steps of marketing planning including keyword research and competitor analysis. The underlying goal of keyword research is to understand the targeted market through identifying relevant keyword queries that are used by targeted costumer group. In the analysis, three types (geographic, field and company's strategy related) and seven sources of keywords has been identified and used as a base of analysis. Following the determination of the most popular keywords, allinanchor and allintitle search has been conducted and the first ten results of the searches have been collected to identify the companies with the most significant web presence among the nursery shops.

Finally, Link Profiling has been performed where the essential goal was to understand to what extent other companies' link structure is different that the base company's backlinks. Significant difference has been found that distinguished the top three companies ranking in the allinanchor and allintitle search. The top three companies, "Mothercare", "Mamas and Papas" and "Kiddicare" maintained significantly better metrics regarding domain and page authority on the main landing pages, the average number of outbound links for link portfolio metric and in number of backlinks. These companies also ranked among the highest in page authority distribution and followed external linking.

Keywords: Search Engine Optimization, Search Engine Optimisation, SEO, Link Building, Competitor Analysis, Keyword Research, Link Profiling

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INFLUENCE OF LINK STRUCTURE ON SEARCH ENGINE RESULT PAGES OF ONLINE NURSERY SHOPS

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in Information Systems Science

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1 Introduction

Search Engines play a major role in today's internet driven business world. Most of the time`, users can only find the relevant information by using online search applications, such as Google, Bing or Yandex, which help to structure and index the web content. The almost 50% of growth in Search queries in year 2009 shows that these applications will greatly influence the online interface of the digital world.

Many marketers recognized how important search engines are becoming and created new Marketing tools in order to enhance business through the electronic communities. The Search Engine Optimization (SEO) describes the techniques used to improve Search Engine Result Pages Rankings, in order to increase website visibility for the wide audience.

SEO tools enable search marketers to either improve webpage quality (on-Site SEO) or the connection between WebPages (off-Site SEO). This process increases domain trust (how reliable and trustworthy the search engine considers the given webpage), thus pushes the website up the ranking ladder. The off-Site SEO practices and strategy (which is mostly referred as "Link building") quickly become a significant part of marketing concept.

In order to measure the effect of off-Site SEO on Website ranking, Online Nursery Shop segment in the UK was be investigated, relevant keywords were identified, a competitor analysis was conducted and a link quality analysis was created to show how the Link Building activity shapes the online presence of nursery shops.

2 Literature Review

A new generation grown up in the digital age called "electronic community" or "online community" which has reshaped business world *(Singh et al., 2011).* There are many conversations what internet or one of its synonyms (e.g., the Web or World Wide Web) exactly means, however due to its popular use, most people have an idea what it covers and how it affected traditional marketing activity. *(Visser 2006, 20)*

In the digital age, Internet started changing the world we live in while television, radio, newspapers and other traditional media have slowly began losing their significance *(Stokes, 2011, 4*). Marketing science - who realized the potential of internet-driven electronic crowds - has developed cost effective and faster ways of reaching potential buyers.

Today, with more than 600 million people using the Internet *(Lloyd-Jones, Davis 2006),* the number of web pages and their content is increasing, thus finding information, searching for relevant topics has become one of the most important factors of online marketing and advertising. In the early stages of internet, when working with text browsers that displayed manually indexed pages *(Chun 1999, 135),* going through all the links in different online directories was possible. Nowadays this method is not efficient and fast enough for most users, therefore better organization and search intermediaries were required *(Visser 2006, 25).* According to Comscore report *(Comscore, 2010)* searches conducted through these new intermediaries the "Search engines" increased by 46% by the end of December 2009, reaching 131 billion search queries a month. This means 4 billion searches per day worldwide, 175 million per hour, and 2.9 million per minute, that are conducted by people older than 15 years old. The countries with the largest search volumes were: United States of America (22.7 billion searches performed, 17% of all the search queries), China (13.3 billion), Japan (9.2 billion) and the UK (6.2 billion). From the searches made, Google search engine accounts for 58% of all searches, which makes it the most popular Search Engine. Many other search engines have showed significant increase including Yandex (Russian Search Engine, increase by 91%), Microsoft Bing (70%) and eBay searches (58%). One year later Comscore suggested that in Europe, Google Search Engine reaches 90% of all population. *(Comscore, 2011).*

Bulks of academic research have been conducted related to search engines trying to understand and improve online queries and search algorithms from technical point of view. These researches show how Search engines gradually developed, indicating what factors were considered as relevant to queries. Some suggested of using task-based site search interfaces, where the search engine uses the metadata of its website to analyze the

content and present similar results for the user. *(Callan, 2000*). Some other tried to list the features of "perfect" Search Engines that most accurately finds relevant information for users' queries. In order to have reliable and flexible search engine Bar-Ilan *(Bar-Ilan, 2005*) lists the possible criteria's that a Search Engine needs to satisfy in order to become a powerful tool in a digital world.

Davison et al. *(Davison et. Al 1999)* suggests that search engines should consider the hyperlink structure besides the website content as well. Henzinger (Henzinger, 2000) created other hyperlink analysis algorithms that helped to refine search results rankings, and also contributed to crawling of the web (indexing of WebPages), finding related pages, calculating web page reputations and geographic scope, prediction of link usage. The basic idea these papers represented had later fostered the Tahoma algorithm, which was the first commercially used measure for hyperlink relevance. Later Google implemented PageRank system that measured page importance in the framework of links connecting the homepage to other pages. (Spencer et al., 2009). Brin and Page *(Brin, Page 1998)* in their "Google" paper described PageRank as a way to prioritize the keyword searches using their model of user behaviour. The measure counted and normalized links from all pages equally using the following formula:

$$PR(A) = (1-d) + d*(PR(T1)/C(T1) + ... + PR(Tn)/C(Tn))$$

Where "A" is the main domain, that has pages T1 to Tn pointing to it, C(x) is the volume of links going out of a certain page and "d" is damping factor, which is the probability of the user stopping browsing the given page. Damping factor helped Google to personalize search, avoiding misleading the system.

Due to increase in search volumes, businesses started shifting its focus to a digital field. The Atlas Rank Report (Atlas Institute, 2004) states that Search engine marketing is the fastest growing sector in online business due to the conversion rate of high ranking in Search Engine Result Pages (SERPs). Conversion rate means that by ranking among the first result of certain keyword queries, business can expect multiple times higher traffic than being ranked lower. Atlas Institute measures this by using "Click Potential" metrics, which indicates the potential of people clicking on the link depending on its SERPs ranking. Number One ranking has 100% click potential, which means almost everyone clicks on the first organic (non-paid search) results of their query. In comparison, second rank has the click potential of 59.8%, the third rank has 47.5%, etc.). Other researchers also confirmed that the first main positive factor influencing search engine ranking is the matching between the page copy and the keyword queried *(Chaffrey, Chadwick 2009, 510; Wilson, Pettijohn 2007).*

The electronic community – the increasing popularity of the Internet (*Singh et al., 2011)* - increasingly uses search during its online browsing. Search helps individuals to navigate between the massive information presented by the web by structuring and assessing the online content. Due to this increase of queries, new marketing opportunities appeared in forms of Paid and Organic Search. During Paid search (or also known as Pay per Click (PPC) advertising) advertisers bid for Search Engine placement for keywords they specify, and pay the search engine a fee if someone clicks on their text link. A popular term, that is many times searched and targeted by many companies might be more expensive to bid than a rarely searched, not that competitive keyphrase or keyword. In exchange of payment, search engine will display the advertisement at the top part or sometimes on the right side of Search Engine Result Pages. *(Rutz, Bucklin 2008, 1)*

In comparison, organic search results are usually displayed on the left side of SERPs and not influenced by payment of any kind, and its main goal is to improve organic listing *(Chaffey, Chadwick 2009, 507.)* These are the results that are considered to be the most relevant to search queries by the Search Engine. While PPC is controlled through different Search Engine Platforms (such as Google Adwords), the new marketing strategies, that are used to influence organic search results and increase website traffic in the same time is called Search Engine Optimization (SEO) techniques *(Stokes 2011, 248, 255; Malecki 2011).*

Search Engine considers hundreds of variables when ranking the websites. Google, for example uses at least 200 factors, which are constantly updated, therefore during Search Engine Optimization, search marketers need to "re-study" the field over the time *(Google, 2006).* This is also necessary because neither of the Search engines publish how its technology works, therefore Search Marketers need to learn many time from trial-and-error. As an Optimizer, the main idea is to focus on the most important factor that most likely affect the business.

Search Engine Optimization (SEO) focuses on factors search engines use to rank results for certain keyword queries and the search engine itself that the target group is using to find relevant information about their interest. A keyword is a word typed in the search engine by the user. Sometimes literature also calls it keyphrase implying that keywords-groups used in queries can consist of multiple words. *(Stokes 2011, 120)* During Search engine optimization a marketer focus can either be on on-site factors or off-site attributes. On-site optimization factors that are the attributes that we can find within a company's website: inbound links on the website, content structure and its semantic attributes, keywords, meta tags and website design. These factors can be edited directly by the administrator. In the same time elements that are not contained in a

website owned by the enterprise are the Off-page factors: incoming links from other websites (or also called: outbound links) and their position, neighbouring websites. *(Grappone, Couzin 2008, 348).*

By editing website content, removing barriers from indexing, researching proper keyword mix, marketers focus on on-site SEO, while activities including analyzing hyperlinks, measuring the quality of links, searching for other high quality sites are part of off-site SEO perspective. (Singh et al., 2011)

Chandra et. al. (2011) describes the 6 most On-site and Off-site SEO techniques. These are:

- Title optimization: the high importance of this factor is given because the search engines index this part of the page first. It should be descriptive, but short and should help visitors to identify the content following the title.
- Meta Tag Optimization: The Meta description has lost a lot from its importance (SEOCentro) but it is still important for the search engines. Crawlers putting the Meta description on the SERPs, therefore the individuals finding the website might read the Meta description before clicking on the site. This helps them to identify whether they found the proper content and also makes them trust the website more.
- HTML Tags: some parts of the site can be highlighted by HTML tags (such as <h1>) which indicate important content not only for the visitor but for the search engine as well.
- Keyword Optimization & Synonyms: Years ago keyword stuffing (filling up - many times invisible websites with keywords so that the site can get better ranks in the Searches) was a popular "black-hat" (bad intention driven) SEO strategy, but for several years many Search engines has been fighting to eliminate this practice. (Kolari et al, 2006) Today, the most important thing is to find the proper keywords for the website that are hopefully used by the visitors when querying for the sold product.
- Link Optimization: proper inbound and outbound links also increase site reliability and overall quality, indicating consistent and trustworthy content for the search engine.
- Image Optimization: Images are harder to interpret for Search engines than humans; therefore sites with significant amount of pictures should be well-optimized so that image tagging can be properly done for search engines.
- Since this research focuses on Off-Site SEO techniques, it is worth discussing what the state of art is regarding the factors of link quality. Among the most

important Off-Page SEO techniques link popularity and the connections between websites are considered to be the main priority. The quality of website can be described by the SEOMoz link building guide (SEOMoz, 2007):

- The volume of Hyperlinks pointing towards other websites (outbound links)
- The quality of other, linking websites (Google measures this with many factors including the PageRank metric). Linking page quality is explained as a "vote" coming from other websites. If a highly realizable, high quality website links to a lower quality website, the lower quality website gets a "vote" and thus has a better chance of getting into the top pages of SERPs. (Mihalcea et al., 2004). If a linking website appear in the SERPs for many keywords (high visibility) and has high trust from different sources (high MozRank by SEOMoz, high ACRank by Majestic SEO) can be considered as better quality website during the process of SEO.
- Anchor Text: The actual text of a hyperlink that users click on. Anchor texts usually described the end point of the hyperlink with the intention of giving idea of follow-up content for the user. Anchor texts can be the hyperlink address itself (such as www.example.com), which only contain the domain name therefore giving a brand related advantage only. Years ago it was popular to use the "click here" anchor text for links, which nowadays became downgraded by search engines due to its semantics non-sense (does not provide any useful information). Finally, links can appear with an anchor text describing the end-point content (such as "nursery furniture") which is nowadays preferred by SEO experts. Anchor text of links that indicates other website's content for Search Engines, influences SERPs. If the anchor text is properly written and describes the field where the hyperlink is leading, the search engine is more willing to include the website among it Search Results.
- URL Location: A hyperlink can be "deep" or "shallow", where deep links can lead to high content areas of other websites (such as a product description, blog posts, other articles). These links are more specific, therefore they are prioritized higher than shallow links that lead to higher category pages (such as product categories) or to the home page only. It also matters where the hyperlink can be found in the website: links embedded in the content areas usually receive higher priority than links that appear on the side pages or on the top/bottom of the page.
- Link Intention: Some links can be related to authority (the linked website has some relevant content, making it useful), or can be related to user's intention

(the website can sell the desired product or provide the needed service). However some links are influenced by less trustworthy intentions such as money (Link Farms, Text Ads) or relationship, which are penalized by search engines.

- Visible vs. Invisible Links: The search engines provided site administrators many techniques that can influence Search engine crawlers. Crawlers are scripts written by the Search Engine, which runs through different sites and their links assessing the importance and quality of each page *(Brickmarketing)*. By using tags as "nofollow" or "noindex", or by blocking sites in the crawlers related file "robots.txt"; site owners can make sure that Search Engines won't downgrade them for outbound links that are less relevant or links to lower quality content than the homepage.
- Indications of Spam or Manipulation: Search engines consider links that are somehow related to Link Farms, Advertisements or similar IP addresses, downgrading websites that are having abundance of these types of links. Link reciprocity - which many times based on the intention of fooling the search engines - can get high ranking and fast downgrading in the same time, if search engines realize that the domain uses it unethically.

Even though search engine optimization is a widely debated topic due to its nature characterized by unknown search algorithms, ever changing search engine updates, the idea itself that content writers should try to "optimize" their work in order to be found by wider audience has taken its roots. Beel et al. *(2010)* listed some guidelines how academic research papers should be optimized and pointed out in the same time the controversy of the topic. The authors claimed that - in spite of the number of writers who would probably try to misuse Academic Search engine Optimization (ASEO) - the main idea of optimizing scholarly papers can be useful to reach bigger audience, minimize Spam, therefore should be a common procedure for academics. *(Beel et al. 2010, pp. 5)*

3 Research Topic

This thesis focuses on Off-Page Search engine Optimization Methods. The bulk of the literature in this field deals with content and inbound link optimization, keyword research and HTML coding. However, some gap can be discovered regarding how link building and the quality of links affect Search Engine Result Pages.

The thesis is based on an internship done at an online Nursery Store, Hello Baby Direct, which company has emphasized link building methods in order to increase sales. During my work I become interested in how link building will actually affect the company's ranking and how could the firm reformulate its approach towards acquiring links. The company owner also asked me to investigate how link building patterns differ between the different nursery shops selling their products online. Therefore, the research focuses on the identification of main online nursery shops and the analysis of their websites from Off-Site SEO point of view.

In order to answer these questions, the research topic was broken down in the following sub-questions:

- What is Link Building? What best practices can be found regarding link building? How does link building supposed to affects website ranking on SERPs on a relevant keyword group?
- What pattern can be seen between hyperlink profiles that describe the backlinks portfolio? Does outbound link profiling help to understand ranking of different companies better? How does this affect SERPs ranking? How does this influence link building strategy? Is keyword research and competitor analysis affect link building concept?
- Which Link Metrics explain the difference in SERPs and between competitors? Which Link Metrics show significant difference across multiple competitors?
- Which link building methods have the highest conversation rate, the best value-for-money?

The last question regarding the most effective link building method that increases website visibility and optimizes its visitors' volume cannot be answered without comprehensive data collection of different company including sales data, Google Analytics and Log file analysis. Since these types of data is highly confidential and many times costly to collect, the proper answer can be only answered implicitly by looking at the results of different website's link building activity and identifying the dominant patterns. By understanding the significant difference between different competitors, it can be assumed that the company ranking 1st on SERPs follows the best possible link

building technique. Exact answer to this question reaches over the limit of this thesis, therefore only some basic assumption can be tested here. In order to answer the other research questions the following data collection and analytical methods has been defined and followed.

3.1 Link Building Best Practice Guide

The thesis focuses on off-site factors that are created through commercial link building activity. Link building is defined as a process of establishing relevant, inbound links to one's website which helps to achieve higher ranking in search engines, that will consider the webpage as an authoritative, relevant and trustworthy natural (non-paid) source (Brickmarketing, SEOBook, Search Engine Watch, 2007).

The thesis describes the essential elements of link building which influences the off-site hyperlink structure of one's website. After identifying the main methods of link building, follow-up research will be conducted to determine how these practices affected the UK based nursery shops online presence.

3.2 Quantitative Data Collection Methods

The main goal of the investigation is to measure how organic link building activity affects search engine result pages. The online nursery stores are essentially trying to drive traffic to their website because conversion rate is the smallest here compared to other possible sales channels such as auction sites (eBay), e-commerce sites (such as Amazon.com and Play.com) or affiliate sites. However in order to achieve high conversion rate on websites the companies have to make sure of quality content and connections to other relevant high quality sites. Link building provides tools for improving website's reputation.

To investigate the hypothesis I am planning to use my internship company, Hello Baby Direct (the online nursery shop, www.hellobabydirect.co.uk) as a base company for research as a reference point. I will compare Hello Baby Ltd to its competitors by conducting keyword research in the first place and then a competitor analysis using the keywords relevant to the base company through Google. This way I can determine a relatively homogenous group, that are competing for similar keywords and therefore for the same group of potential customers.

For the competitor analysis I intend to use Google Search Engine as a base of measurement of ranking. I have chosen Google because this Search Engine consequently ranked as the top search Engine worldwide with about 90 billion searches in the end of 2009. They increased their search volume by 58% during the year 2009. Even though

some other search Engines have also experienced large growth in this period (such as Yandex, Bing and Baidu) however with its 70% share, Google still considered to be the most popular Search Engine. (Comscore, 2010)

3.3 Base Keyword Determination

Following the definition and description of link building techniques, the research will focus on the online nursery shop market. The main idea is to analyze the base company using advanced website administration tools (Google Analytics and Webmasters Tool extension, Link Building Spreadsheets), an online SEO system (Research Central of Raven SEO Tools using SEMRush Database), a free-trial tools (Lindex) and free research tools (Alexa, Compete) to define which keywords are driving the main traffic to the base company's website. The keyword research must reflect the research scope of incoming link structure, therefore link anchor texts connecting from domains other than the analyzed company will be collected. While using the research tools, the outbound link structure is analyzed and listed in order of importance. Priority order will be determined by PageRank and Domain Authority metrics. Different biases (such a geographic, representation) will be taken into consideration when weighting and evaluating keyword portfolio.

The base company of the research, *Hello Baby Direct Ltd.* is an UK based online nursery shop. Created in 2008, sells nursery furniture, baby toys, baby safety products and other baby related items through its website and some other sales channels, such as Amazon, eBay and Play.com. In 2012 Hello Baby Direct was facing declining traffic to its website due to Google Panda Update. This update downgraded many websites who did not provide the users with original content, and since Hello Baby was using many descriptions taken from the Manufacturers' website, the ranking of the company significantly dropped back on search engines. As many other online retailers, Hello Baby Direct as well tries to increase it SEO activity in order to gain back its former ranking: this includes copywriting the website content – writing unique material by rephrasing the original website copy for marketing purposes-, regular HTML diagnostics and error correction and link building activity. Regarding the link building, the firm would like to understand what link structure its competitors have and whether they need to try to achieve similar linking to their own website. Therefore this research serves their goals as well.

3.4 Search Competitor Analysis

Following the collection of keywords of highest relevancy to the base company Google search engine will be used to identify possible competitors. In order to get unbiased data non-personalized, but geographically based query results will be collected using allintitle (AIT) and allinanchor (AIA) search operators. Using these methods list of websites that are closest related to the identified keywords can be identified.

3.5 Link Profiling (Link Quality Analysis)

Having the keywords (or keyword groups, also called: keyphrases) set up and the list of companies defined, Ranking reports will be performed on each company on a daily basis for a longer period of time. In the same time using the Raven SEO Tools Backlinks analysis feature and the Link Diagnostics tool (http://www.linkdiagnosis.com/), organic link profiles will be drawn and outbound link reports will be generated for each company. This means a distribution table will be created for each company's links that can be compared to each other. This can be done by comparing many different link statistics such as the distribution of deep and shallow links, root domain and subdomain links, the number of external and internal links and the share of nofollow. During the research only organic links will be investigated, because paid links are not affected by general link building tactics and the base company is also not working with them, therefore it would not be possible to have a benchmark.

Besides creating the link quality profiles for each competitor, other link metrics, will be investigated as well. This can help understanding the ranking of different companies. In order to measure these link metrics, different SEO toolbars (Alexa, Compete, SEOMoz), the Open Site Explorer by SEOMoz, Lindex Trial Version and Link Diagnosis tool as well will be used. The already identified hyperlink metrics are the following:

- Google PageRank
- Page and Domain Authority
- MozRank and MozTrust (based on SEOMoz database)
- AC Rank (based on MajesticSEO database)
- Linking and External Linking root domains
- Linking C blocks
- Outbound Links
- Top Level Domain
- Content to Code Ratio
- Link Strength

3.6 Limitations on the thesis

The main limitations of the study can be the following

- On-Page SEO can have influence on ranking results. Since the companies' website can update their content regularly, the change in their on-page SEO can affect the page ranking for certain keywords.
- I am assuming that the identified competitors have similar product lines, however differences in products sold, can also affect SERPs.
- Social Factor: social media planning is increasingly has higher priority in the SEO Process *(Rand Fishkin, 2011).* The thesis does not cover social media metrics, which can have a high impact on SERPs ranking.
- Sample size: the sample of data collected is somewhat limited in nature. Link profiling tools obtain only a biased collection of data that can present only high authority or only low authority backlinks in the portfolio, distorting the results in the end. This thesis tries to confirm the importance of different link metrics in the link building (off Site SEO) process, but every result needs to be further investigated and timely updated due to the changing search engine algorithms. The main data volume is based on the *Link Diagnosis* tool and the *Raven SEO Tools Research Central*.

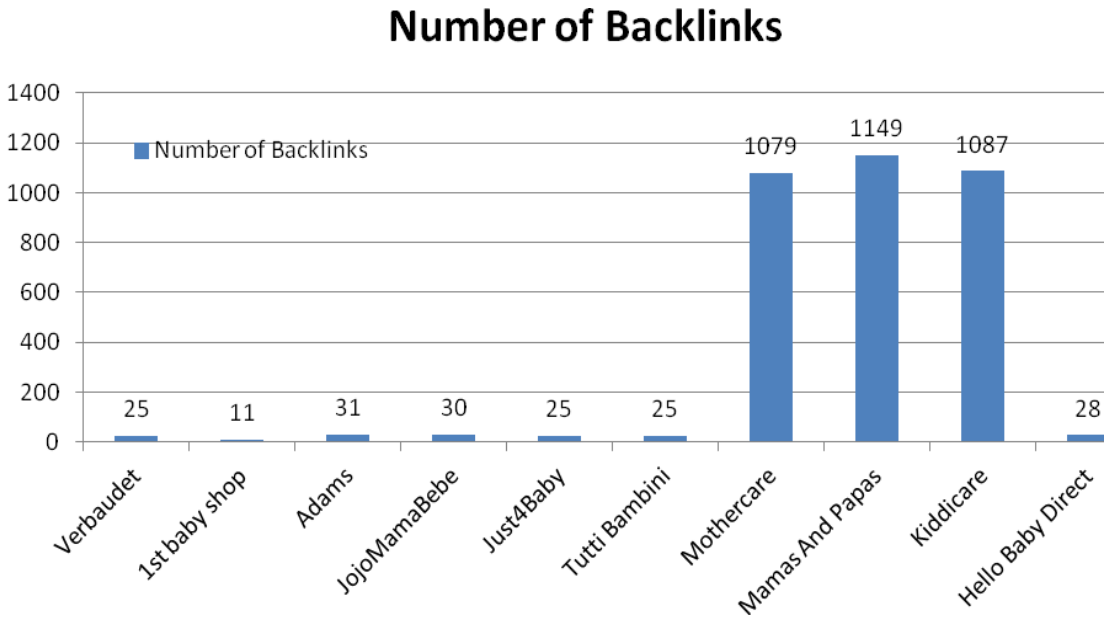

Figure 1: Number of Backlinks Analyzed with Link Diagnosis Tool

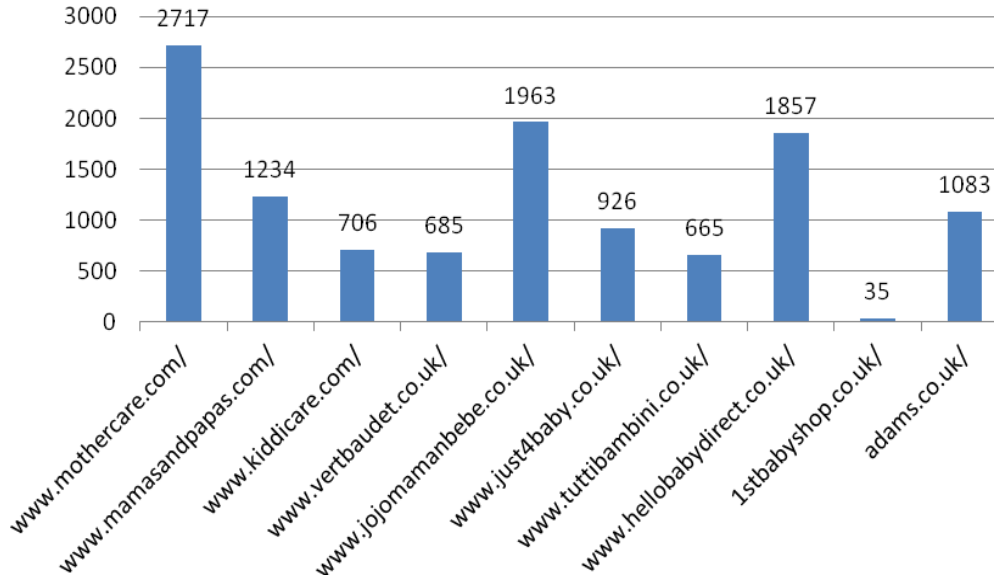

Figure 2: Number of Backlinks Analyzed by Raven SEO Tools for ACRank Distribution

4 Link building Strategy: Off-Site SEO Practice

There have been many guides written about link building methodology. In this section the guides describing linking targets will be discussed. When obtaining a link there are many tools to research and many ways to obtain a link from a certain website. SeoMoz *(SeoMoz)* and Search Engine Watch *(Chris Sherman)* created their link building guide, where the link search methods and linking targets are discussed as well. By understanding the different methods of link building and the most commonly used methods, it can be shown what strategies websites are utilizing in order to achieve search engine visibility through off Site SEO.

4.1 Link research

Running searches on the main search engines is the simplest way to find high-quality links. Alternatively, search modifiers (such as allinanchor and allintitle) can be used, to find link targets. The search modifiers help to narrow down query results by only listing websites that specifically target the given keywords in their title or anchor texts.

Other option is to run a competitive link research that is based on a keyword and competitor research. It is suggested to collect the most competitive keywords or keyphrases for this step and using it to identify top competitors. Since the main objective of the thesis is to analyze link profiles of various companies to identify patterns and significant differences in their link portfolio's metrics that help to understand ranking difference for search engines; thus this method will be used for the further research. The link research is followed by different perspectives on link building (target objects and content creation methods) that helps the firm to build a comprehensive online marketing strategy.

4.2 Content targeting

According to SeoMoz, the content-based targeting is considered to be the most effective link acquisition method. In this framework, a link builder creates some useful content for the website that the company intends to target. This content can be an article, an application, or even a new type of design material. Experts recommend focusing on topics that recently became "viral" (popular) therefore high volume of visitors can be attracted by it. The different link baits the content a manifest are listed by many SEO companies and associations.

4.3 Social media targeting

First typical targeting objects are the social media websites, where users correspond through an electronic interface using profiles, comments, forums (mega forums, specific forums or general forums can also be found) or any other way to exchange information provide a good exposure for many businesses. Regarding social media websites, profile building is the essential building block of link building strategy. Proper design and regularly updated content can provide the brand with many neutral and good quality links, but it can also be risky in case the site administrator posts spam or unsolicited enquiries.

The other advantage of social media websites is the linking opportunity for the owner's external website. Also, in a social media website (such as an article submission websites "Digg" and "Reddit", or a more general site such as "Facebook") can provide many hyperlinks from users targeting the main website of the firm in case the article becomes popular. Commenting also has its benefits; even though social media websites convert most of the comments into "nofollow" links, therefore the search engines do not consider it as a hyperlink, these pages an still increase the website visibility through its quality content.

4.4 News, Blogs and Feeds Targeting

SEO experts considering news websites as a niche market segment, that can cause significant traffic and linking to it, however it requires high investment from the company. Some news feed websites (such as Google News or Yahoo News) can also be used to publish press releases and some articles, thus some links can be obtained through them.

Either the firm's website becomes a news provider or it can just open a blog, that can be submitted to blog directories or RSS feeds.

4.5 Directory Targeting

There are many discussions about how directories are losing their linking value, due to the fact that many of them are free and general (much non-relevant content can be found in them). Search engines – by using the link strength metric are downgrading directories, however many SEO professional are still recommending directory submissions because they often do not charge any submission fee or just an insignificant one. There are some topic and industry specific directories as well, that are worth submitting, due to its relevancy to the linking company.

4.6 Charity targeting

Many websites tend to target charities and by donating money or products, they can receive links from this website. Some consider charity website links higher authority than others that can be a significant ranking factor. Alternatively political organizations and community websites can be taken into account as well, because of their limited online connection to commercial businesses. These groups can also have significant impact on a website's ranking.

4.7 Link Brokers

Selling or renting links is also an available option for link builders to obtain links. The prices for these links vary on quality of the website. Renting a subpage of a website can provide the main website with good deep linking opportunity. It is also possible to rent "text" links, links that only related to a part of a page. Some link brokers are link farms that are banned by search engines; therefore it is not recommended using them for link building purposes.

4.8 Content Creation

This section covers the method of searching for gaps through participation in forums, social media groups, and blogs. Newly written content does not have to be revolutionary; the essential goal is to find what the targeted audience is interested in.

It is often recommended to leverage the partnership network: building a wide network between relevant companies and organizations dealing with similar topic can lead to new content creation. Content can be shared as well along with the revues originating from it.

Also, there are content creation structures that can be used in a brainstorming session to create new content: these include top-ten lists, how-to guides, new applications, articles. SeoMoz lists the concepts for link builders that are more frequently used to obtain new ideas and links:

- Web Tools
- Widgets
- Embedded Content (such as videos, images, podcast)
- Guides and "How to" descriptions
- Top 10 lists
- Surveys and Polls
- Contests
- Multiple Expert Opinions
- Interviews

- Encyclopedia-style Articles
- Awards or Recognition

4.9 Link Tracking

SeoMoz guide also dedicate a chapter for tracking the link building process. The guide lists the most popular applications for website traffic tracking:

- Omniture
- WebSideStory
- Indextools
- ClickTracks
- Google Analytics
- Webtrends
- IBM Enterprise Management

While using these applications it becomes possible to track which sources are sending traffic to the website, which sources are linking to the firm and what content the links referring to on the company's website. This helps to understand market demand fluctuation and popular topics that can provide further resources for the link building strategy.

When answering the first research question regarding link building, this short guide shows that there is a high workspace in the off Site SEO field and that link building plays an important role in online marketing.

Link building main goal is to increase website visibility by link acquisition, directory submission, article writing, social media planning, and participation into forums, groups and local communities. The higher number of good quality and relevant link a website can obtain, the better search engine ranking it can expect on certain keyword queries. Due to the confidential nature of search engine algorithms, link building does not have a well documented process, but through the general guidelines and best practices it is obviously shown to have an effect on website ranking.

5 Base Keyword Determination

The first step of the research had a goal of identifying relevant keyword queries for the online nursery shops in the UK. In order to achieve Triangulation one needs to collect data related to one topic from different sources. According to *Jick (Jick, 1979)* the form of research strategy described as using multiple methods is called Triangulation. This is partly due to the different strengths and weaknesses of each research methods and the complementary view of qualitative and quantitative approach as well. It is especially important to use triangulation when discussing Search Engine Optimization themes, because the nature of Search Engine algorithms, that are not revealed for public in order to avoid manipulation of websites.

The main sources used for keyword collection are the following:

- Competitor and Company related keyword research: in the beginning of the data analysis and collection, previous competitor analysis have been took into consideration, therefore when defining keyword research methodologies the keywords that the base firm and two already identified competitors (“Kiddicare” and “Mothercare”) were targeting, were included in the research. Since this method is highly biased towards the products the different companies selling, this could only be used as a reference point when judging the other keyword opportunities.
- Geographical related keyword research: since the base firm intended to sell its product mostly for its UK costumers and defined its Search Engine Optimization goals as a methodology to achieve higher visitor volumes in the UK, therefore a logical choice was to take into account geographical biased keywords such as "Baby Shop London" or "Nursery Furniture UK".
- Interviews and company strategy: based on the discussion with “Hello Baby Direct” owner Trevor Ginn and two interviews with mothers of newborn babies, a group of keywords has been identified that can also used to assess the potential of keywords for the industry of nursery shops. Trevor has provided a list of keyword he intended to target when initially setting up the company's Off-Site SEO strategy. This list helped to assess the efficiency of Off-Site SEO activity at Hello Baby, and fostered a general idea of industry keywords as well. Regarding the interviews, one of the Mothers interviewed just gave birth to her child in Paris, France while the other one has become a mother few months before the interview, in Atlanta, US. During the interviews question regarding the query terms, the research baby products and search habits has been addressed. This

helped to identify whether they can be a relevant source for keyword information and also fostered another approach for the keyword identification.

Many different tools for keyword research has been used, that helped to identify what keywords can be a result of a biased sampling (such as the geographical distortion for Alexa) or niche/long keyword targeting (such as "Chicco" or "50's baby toys" for specific shops) so that these phrases could be sorted out from the final list. The keywords appearing among the results of multiple tools received higher priority in the assessment. Besides, query volumes and competition factors have been taken into account.

- Google Adwords: Adwords is Google's advertising platform, mostly targeted for aid search users, however it is a flexible support tool that can enhance organic SEO effort. Adwords provide the user with importance of keywords, geographic targeting option and alternatives for keyphrases *(Netage, Webconfs, Grappone, Couzin 2008,, pp. 115, E-Consultancy pp 31).* By using Adwords monthly query volumes and competition over several keywords can be defined. The first measure can help to evaluate keyword variety, because it not only refers to paid but organic search as well, and the "competition" factor can serve as an index for how popular and relevant a keyword is. A keywords, that is widely searched but it is low on competition, can be a niche, non exploited keyphrase or just an irrelevant expression for nursery shops. For example "Sophie, the" keyword has more than 1 million search volume per month locally, however the particularity of keyword makes it hard to use: it can either refer to any character named "Sophie" or a popular baby toy named "Sophie, the giraffe". Since "Sophie, the" is a highly niche keyword with low relevancy to the nursery shops due to its other meanings, the competition for the keywords is very low.
- Google Analytics for Hello Baby Direct: for the company related keyword collection, the Google Analytics module was a must-have choice. Google Analytics is used to track websites traffic data, identifying which keywords are driving significant traffic to the website, and what is a website’s average ranking for different keyphrases. Google analytics is a JavaScript tagging tracking tool (sometimes called hosted, client- side, or on-demand tracking) *(Grappone, Couzin 2008, 153)* that has to be implemented on each page of the website; therefore it was only available for the base company. The opposite is server-side tracking which many times has to be implemented by an IT team due to its complexity. The JavaScript Tagging enables to track cached website traffic assuming the JavaScript code is part of each tracked page *(King, 302)*. In spite of the limited use, this still helped to identify accurately what keywords the firm is

ranking for on the Search Engine Results Pages, which later can be filtered with brand related keywords. In the end of the list, only keywords remain that are not related to the company specifically only the online nursery shop market.

- WordTracker: WordTracker's full query tool enables the user to research and analyze multiple keywords at a time, polling and all of the related keywords and indicating their popularity without having to do separate searches for each term. It lists keywords with Keyword Importance measure and WordTacker related Search Volume which also indicates keyword popularity. For the research, the Raven SEO Tools integrated version has been used.
- Raven Tools / SEMRush Database: The firm "Hello Baby Direct" utilized an SEO software at the time of writing this report. The Raven SEO Tools integrated a SEO database (SEMRush) into its research tools which identified the importance and relevancy of different keyword giving suggestions of vertical and horizontal keyword target alternatives. This tool required a keyword input; therefore an initial set of keywords has been used in order to identify relevant query terms. These initial keyword targets are based on the Hello Baby Link building strategy that has identified the following keywords to be targeted:
    1. Online baby Shop
    2. Baby Stuff
    3. Baby Travel
    4. Baby Toys
    5. Nursery Furniture

  The SEMRush database identified CPC value for Paid Search, but also indicated the number of results for each search (which indicates competition) and average volumes (which highly correlated (r=0.72) with monthly local (UK based) search volume results measured by Google Adwords).
- Raven Tools / Research Assistant / Website Domain: Website Domain analysis measured the importance of different keywords in a website Search Engine reach. Similarity to Google Analytics software, the research assistant indicated estimated traffic for each keyword giving suggestion for organic and paid campaigns as well. The research assistant for website domains were used as a substitute for the missing Google analytics modules for Kiddicare and "Mothercare" companies. The base company was also analyzed to understand the essential differences between the Google Analytics and Website Domain analytics research. Both tools showed similar patterns of keyword, for example:

both Research Domain Assistant and Google analytics identified the same keywords that were driving major traffic to Hello Baby Direct Website.

- Alexa.com: A lower Alexa rank indicates greater level of traffic. The ranking is based on a toolbar that is mostly used by US internet users, therefore it has a strong geographical bias, which only can be considered as a rough estimate for relevant keywords *(Aaron)*
- Keyword Spy: The final tool utilized in the keyword research is the KeywordSpy, a free online based tool that also intend to identify which keywords the websites are ranking therefore it can represent a complementary tool for Google Analytics and Website Domain Research Assistant in Raven SEO Tools.

5.1 Sorting criteria for keyword research

All the above listed tools have their own limitations or biases. In order to avoid choosing a wrong keyword, sorting criteria has been developed to determine which keywords describe shops selling online baby products in the UK. Some keywords might have synonyms (such as prams and strollers) in which case only the one with the highest search volume will be used. Keywords, which have a horizontal version that describes the market more precisely (such as using baby "changing bags" instead of "changing bags") were considered.

- Keyword Frequency Calculated: Keywords appearing in several results can represent a more significant search term..
- Competitor Bias: keywords related to Competitors (ones containing brand names, such as "Kiddicare toys") are sorted out. These keywords cannot generalize a field; they can be only relevant to the specific company's website.
- General or specific term: many general terms that can be misunderstood or not directly related to the industry (such as "baby" or "shopping in London") were sorted out.
- Relevancy: irrelevant keywords that can easily lead to websites of different fields (such as "nursery" or "Sophie") have been sorted out.
- Different versions, mistyped keywords have been sorted out due to the fact that search engines provide proper selling of keywords.

Results	Keywords	SemRush			WordTracker
		Search results	Competition	Average volume	WordTracker Score
1	*baby clothes*	58,800,000	0.96	39,500	498
2	*maternity clothes*	13,700,000	0.92	3,600	13
3	*nursery furniture*	4,530,000	0.87	480	115
4	*prams (pushchairs, strollers)*	11,200,000	0.95	27,100	370
5	*baby changing bags*	3,920,000	1	8,100	5
6	*baby shops*	37,800,000	0.84	6,600	120
7	*baby stuff*	32,900,000	0.97	9,900	105
8	*baby toys*	47,600,000	0.92	1,000	212
9	*cot beds*	4,840,000	1	4,400	81
10	*moses basket*	1,610,000	1	8,100	87

Table 1: Final Keyword List with SEMRush and WordTracker Data

Using the results of keyword research and analysis, different tools were used to clarify which companies have the largest online presence in the nursery shop market. Since search results can be affected by personalized search on Google, the Distilled *(Ousbey)* guide has been used to turn off Google personalized search filter. Only the geographical filter (UK) has been left due to the targeted market by the nursery retailers.

Following this action, All-in-anchor and All-in-title search has been conducted and the first 10 results of the searches have been collected. Keyword inputs in other online tools have been used as well to get a more balanced list of competitors such as the Open site Explorer *(Sayers)* and Raven SEO Tools Domain Research Assistant.

Results	Keywords	Google Adwords		
		Competition (Adwords)	Global Monthly Searches	Local Monthly Searches (United Kingdom)
1	*baby clothes*	0.97	1,830,000	450,000
2	*maternity clothes*	1	823,000	201,000
3	*nursery furniture*	1	90,500	40,500
4	*prams (pushchairs, strollers)*	0.29	823,000	450,000
5	*baby changing bags*	0.8	33,100	27,100
6	*baby shops*	0.72	550,000	74,000
7	*baby stuff*	0.84	246,000	49,500
8	*baby toys*	0.13	2,740,000	246,000
9	*cot beds*	1	165,000	74,000
10	*moses basket*	0.94	135,000	90,500

Table 2: Final Keyword List with Adwords Data

5.2 Search Competitor Analysis

Following the keyword collection and analysis, a group of phrases have been identified that most likely describe the online nursery shop field in the UK. These are the keywords most companies would like to rank as high as possible among the Search engine Results Pages. Therefore, in the analysis, companies that have the most and highest ranking considered to be the firms who have the highest online presence, due to their SEO effort and relevancy. To avoid distortion of personalized search in Google search engine, non-personalized, UK based search option have been used, described in the *"Distilled"* website.

Since many irrelevant website can be found among the Result Pages, All-in-anchor and All-in-title search has been conducted in order to identify more relevant websites. Both All-in-anchor and All-in-title search operators are used widely in the SEO community in order to precisely determine what websites are competing for a specific term. To further clarify the finding, Raven SEO Tools Keyword research database is

utilized as well, which gives another list on keywords that can help identify the most significant companies in the field.

- allinanchor: allinanchor querying restricts searches for only pages that have the specified term in their anchor text. Anchor text is basically the text of the link that leads to another page within or outside the domain and considered to be a relevant factor when determining the importance and ranking and topic of the link *(SEOMoz, Malecki 43).* Allinanchor queries can help define what context a website is targeting. If a website has many inbound links with the anchor text "toys", it is safe to assume the site has either been selling, reviewing or dealing with toys to some extent.
- allintitle: allintitle querying makes Search Engines restrain results to pages that contain the selected search terms in their title tag. The title of a page is defined with the HTML element <Title> and set by the site administrator. There's only one title in a webpage. (*Google guide*)

5.3 Sorting Criteria for Competitor Analysis

- Homogenous product portfolio (only baby product companies): this criterion had to be defined because companies with heterogeneous goods portfolio (example: companies selling other than baby products) can focus their SEO effort on different aspects than baby equipment; therefore can make Link analysis impossible, since some links might be related to other industries other than nursery products.
- Special - One brand shops has been sorted, because these shops focus their attention mostly on their own product, that they manufacture and sale. These shops do not have the same competitor landscape as other nursery shops therefore should be excluded from competitor analysis.

6 Top nursery companies

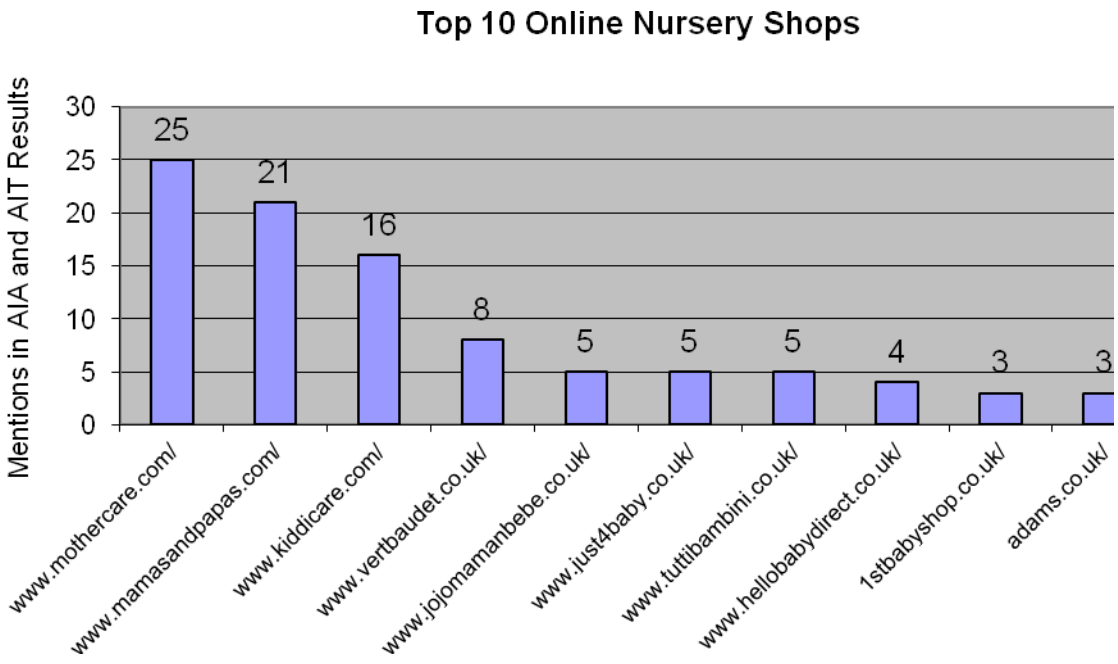

Figure 3: Top 10 Competitors based on search occurrence

- "Mothercare" (www.mothercare.com/): a British retailer focusing on baby products for children up to 8 years old. Presented in the Stock Exchange of London, employs more than 5000 people. "Mothercare" started its business in Surrey in 1961 focusing on nursery furniture and maternity clothing. Later – becoming the biggest nursery retail shop - opened more than 300 shops in the UK. (Mark King, The Guardian).
- "Mamas And Papas" (www.mamasandpapas.com/): a UK-based retailer and manufacturer, who specializes in nursery furniture and maternity wear. It has more than 1000 employees. (Mark King, The Guardian)
- KiddiCare (www.kiddicare.com/): Online nursery retailer Kiddicare.com owned by British supermarket chain, Morrisons. The more than 30 years old retails shop, Kiddicare managed to sta yon the market by targeting low prices and triggering discounts for its costumers. (The Telegraph)
- Verbaudet (www.vertbaudet.co.uk/) French retailer, part of the third largest home shopping organization, Redcats group. (Bazin)
- Jojo Maman Bebe (www.jojomamanbebe.co.uk/): A welsh retail chain launched almost 20 years ago. Smaller in its size compared to the previous ones (employs

about 400 people in the UK, 2000 worldwide directly, has 45 stores) (Mark King, The Guardian)

- Just 4 Baby (www.just4baby.co.uk/): Retailer focused on Nursery Furniture, baby products and baby seats including car seats and pushchairs/prams.
- Tutti Bambini (www.tuttibambini.co.uk/): The retailer offers a wide range of baby objects such as nursery furniture, cot beds, toys and mattresses. (Wayfair)
- Hello Baby Direct (www.hellobabydirect.co.uk/): Came into existence in 2007, Hello Baby Direct focused on online marketing since the beginning selling nursery furniture, toys, baby travel and security items online on its website and in many different sales channels such as Amazon or eBay. (Your Hidden Portal)
- 1st Baby Shop (www.1stbabyshop.co.uk/): 1st Baby Shop started off as baby clothes retailer offered high quality products for pregnant women. Later on it expanded its range of products to other baby products and equipments.
- Adams (www.adams.co.uk/): One of the oldest children's clothing retailer, started in the 1930's in Birmingham. Later on several changes of management been made and in the beginning of the 21st century the company called in the administration as well. After consolidating its financial situation the firm still remained one of the most influential nursery shops in the UK. (Chris Tryhorn, Guardian).

7 Link Profiling (Link Quality Analysis)

The essential goal was to understand to what extent other companies' link structure is different that the base company's backlinks, and in which way “Hello Baby Direct” needs to reshape its link building campaign to compete on the Search Engine Results Pages of pre-defined keywords. The third step of analysis, the link profiling helps to identify patterns and differences between each companies' link structure. According to "Link Research Tools" *(Link Research Tools, 2010)* when performing a backlink analysis on the competitive landscape there are some essential rules that needs to be kept:

- Compare sites within industry.
- Look at least 3 other websites in the competitive space.
- Analyze one value at the time, but try to look at more SEO metrics, that can help to understand the competitors.
- Pick sites of different performance.
- My link profiling met the above criteria in the following picture on the competitors:
- Sites of retailers who are selling baby product online mostly for UK costumers are compared therefore it can be assumed that these companies are working in the same industry.
- 10 different competitors have been analyzed.
- Several SEO metrics have been analyzed that helped Hello Baby Direct understand how it should reshape its link building campaigns.
- Top-industry sites such as KiddiCare and smaller retailers such as Hello Baby Direct were considered as well.

For data collection several tools have been used that provided with necessary data for the link profiling. These are the following:

- Link Diagnosis Tools for Mozilla Firefox: iAcquire's free online tool for Firefox browser shows important information about PageRank, volume of Outbound Links, number of modified Outbound Links, Link Strength, mozRank, SEOMoz Page Authority, SEOmoz Domain Authority, Content to Code Ratio. http://www.linkdiagnosis.com/
- Raven SEO Tools Backlink Analysis: the Raven Tools integrated Backlink analysis tools uses "Majestic SEO" database to create a sample of Backlinks and sort them according to their ACRank. http://raventools.com/
- Open Site Explorer (OSE) (http://www.opensiteexplorer.org/): OSE is a tools developed by SEOmoz which uses Linkscape algorithm. Linkscape is a data

repository and toolset built by SEOMoz that contains a frequently updated index of the World Wide Web similar to the indices used by the major search engines – Google, Yahoo, Bing. In the analysis the following data was included into OSE: Authority, MozRank, MozTrust, External Followed Links/Total External Links, Total External Links/Total Links, Followed Linking Root Domains/Total Linking Root Domains, Followed Links/Nofollowed Links, Internal Links/External Links, Linking C Blocks/Total Linking Root Domains for Page and Root domain. Authority, MozRank, MozTrust, External Followed Links/Total External Links, Total External Links/Total Links, Followed Linking Root Domains/Total Linking Root Domains, Followed Links/Nofollowed Links, Internal Links/External Links, for subdomain.

7.1 Metrics used for link profiling

- Root Domain Authority and Page Authority: The metric "authority" is a number for predicting how a websites or a certain page's content would perform among the SERPs. These are the results of other link metrics making them difficult to change. Increasing authority an be done through improving other metrics. Both Domain Authority and Page Authority are on a 100-point, logarithmic scale, therefore increasing the score beyond at a higher authority is more difficult than in the lower levels of authority
- mozRank: SEOMoz produced a link popularity score, similar to PageRank, called mozRank. Just as the authority metrics, mozRank is on a logarithmic scale as well, resulting in a score between 1 and 10 (for most websites the most frequent score is 3).
- mozTrust: Similar to mozRank, but instead of value it measures trust based on websites from universities, governmental departments and non-profit organizations. The mozTrust measure is calculated by considering the distance between the given website and the trusted source.
- Domain mozRank & Domain mozTrust: Domain level (www.website.com) mozRank and mozTrust instead of a page level one (www.website.com/webpage.htm). The logarithmic value on scale of 10 can be used to compare link popularity between domains.
- Number of links and number of linking root domains: Number of links mean the total amount of links from all websites. Every link count as one, therefore duplicated links from the same domain considered twice. In contrary: the quantity of linking domains only considers every link from the same domain

one. Linking root domain number covers the sum of external links from one root domain to another as one connection, for example: www.babaycentre.co.uk and www.hellobabydirect.co.uk can have multiple links between them but on domain level it only counted once.

- Followed vs. Nofollowed Links: Followed links are registered by the search engine crawlers, therefore they have the potential to produce “link juice” for the specific website. In case the link is nofollow, then the search engine skips it in the indexing process, not providing any ranking power to the target website. In website design nofollowed links are marked with either (rel="nofollow") tag or through the robots.txt which lists the pages to be excluded for the search engines. *(Nick Sayer)*
- ACRank: A-Citation-Rank is developed by Majestic SEO, and on a scale of 15, ut assigns a rank to each page. In case a webpage have no external link pointing to it, it has an ACRank 0, if it has at least 1 external link, then the ACRank is 1 and so on. The higher the ACRank is the higher authority is assumed for a website. *(Majestic SEO)*
- A top-level domain (TLD) in the Domain Name System (DNS) is the domain with on the highest level of hierarchy. Some TLDs are attributed with higher authority than others, due to their connection to some official institution such as “.edu” or “.gov”.
- PageRank is a link analysis algorithm used by the Google Internet search engine, which assigns a rank for each website based on the external links they have. PageRank is using a scale of 10 and it is usually the widely accepted quality measurement for websites.
- Outbound Link (OBL): A link to an external site from the website. High quantity of outbound links can usually be directories, but link farms as well, that search engines do not tolerate. A website having many outbound links considered to be bad in general for the SEO process due to the risk that the search engine will consider it a spam page. *(SEO Site Check-up)*
- Modified Outbound link count (MOBL): devaluates multiple occurrences on the same domain using logarithmic formula log(x)+1, where x is the number of times appears on domain as a link.
- Link strength (STR): inverse relationship between PageRank and OLB. It is calculated with the following formula: Strength=(PR+1)^3*4/OLB. The higher the Link strength is the higher effect it has on SERPs when linking to the main page.

- Content to code ratio (C2C Ratio %): Search engines prefer high code to content ratio on a webpage, giving higher relevancy priority to pages that offer higher volume of content.
- Linking C Blocks: SEO experts underline the importance of C blocks, the third part of IP address that search engines treat as a relevancy criterion. Same C Block between two websites indicates for the search engine, that the content on the two pages is related.

7.2 Link Profiles

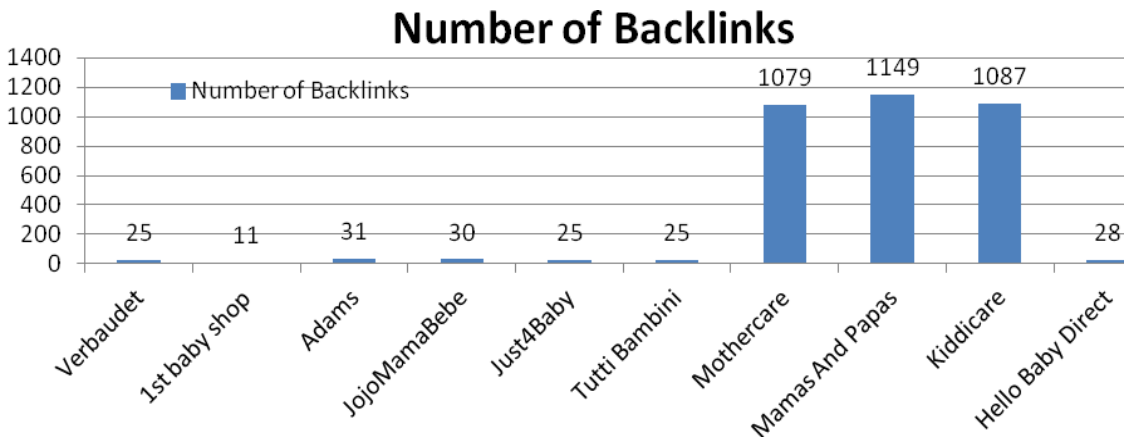

Figure 4: Number of Backlinks Analyzed

The number of backlinks analyzed is different for each company. Regarding bigger firms, that had extensive link building activity – such as Mamas and Papas, "Mothercare" and Kiddicare - a larger link portfolio could be collected than by smaller firms such as the base firm. To avoid biases and confusion the data from Link diagnosis tools and the data from Raven SEO tools have been considered during the analysis.

Many SEO experts suggest that the quantity of backlinks is almost as important in the SEO process as the quality of links, therefore the number of backlinks collected were considered as a significant factor in this thesis as well. According to this metric "Mamas and papas", "Mothercare" and "Kiddicare" are the first three companies followed by the others with link portfolio of similar size.

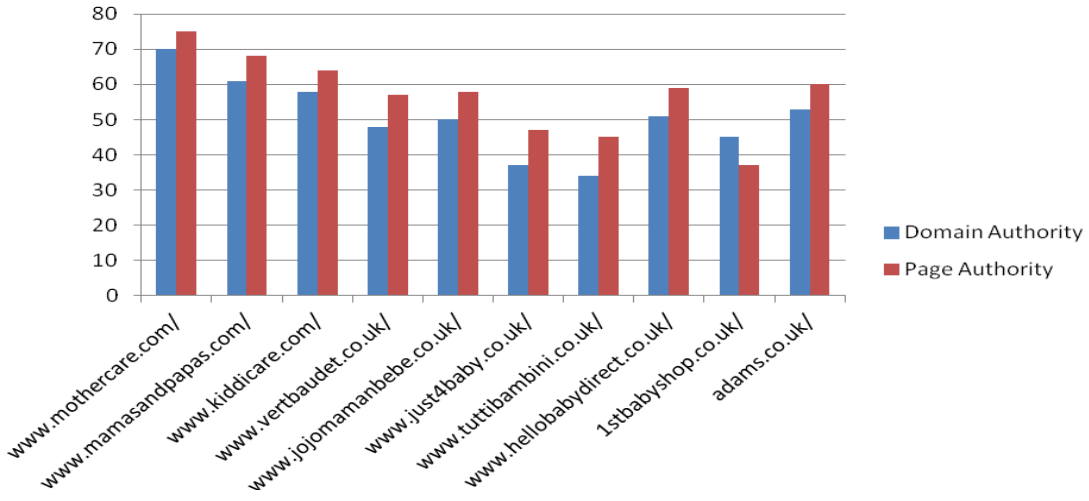

Figure 5: Domain and Page Authority of the Main Landing Pages

Domain and Page Authority expresses the value of trust and reliability from the search engine perspective. As explained above, the logarithmic scale clearly expresses how important and dominant a Domain or a Page can be regarding different search queries. The graph clearly shows that top nursery shops have high domain and slightly higher page authority. The top three nursery companies own the highest Authorities; "Mothercare" 70 domain and 75 page authority, followed by "Mamas and Papas" with domain authority of 61 and Page authority of 68 and "Kiddicare" with domain authority of 58 and page authority of 64. Among the other companies "Adams" (53 domain, and 60 page authority) and Hello Baby Direct (51 domain and 59 page authority) seemed to be the top followers. This is a complex metric that can be increased by improving other link metrics, discussed below.

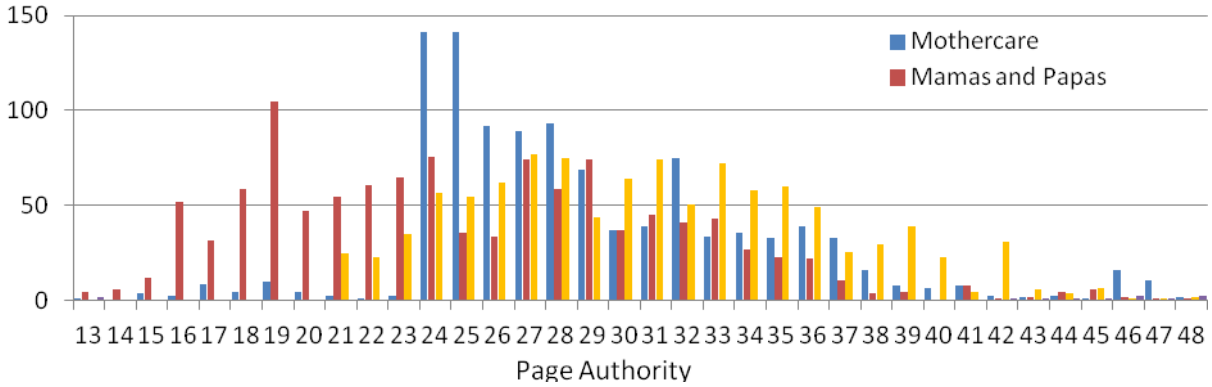

Figure 6: Page Authority Distribution of Backlinks

When looking at the page authority distribution of backlinks, we can see that the leading search companies focus their effort on high authority backlinks. The authority metric is a self-perpetuating process, where high authority links increase the authority of the main website, and vice-versa. By focusing high authority links, nursery companies can themselves appear as an important source for baby product buyers. Due to the abundance of data, only the top three nursery backlink profiles and the base company profile are shown in the graph. Hello Baby Direct seems to have high number of high authority website; however the real numbers are significantly lower than the leading companies' backlinks. (The top three companies have more than 1000 backlinks measured and analyzed while the base firm only provided 28, which causes some representative bias, while Hello Baby Direct does not actually have a dominant number of authority links.) "Verbaudet" with backlinks having an average page authority 48.7, with standard deviation 5.6 seemed to be the most successful company, followed by "Just 4 Baby" with average of 36.42 and standard deviation 7.56, "Tutti Bambini" with an average 36.84 and a standard deviation 7.56, "Kiddicare" with an average 31.72 and a

standard deviation 6.94 and "Mothercare" with an average of 29.11, and a standard deviation of 5.94. The other companies showed high standard deviation (over 10) and low number of backlinks, therefore they were not considered in the final ranking assuming that high standard deviation hurts the reliability of measurement. This is an arbitrary cut-off point, that seemed to be a legit measure in the thesis framework.

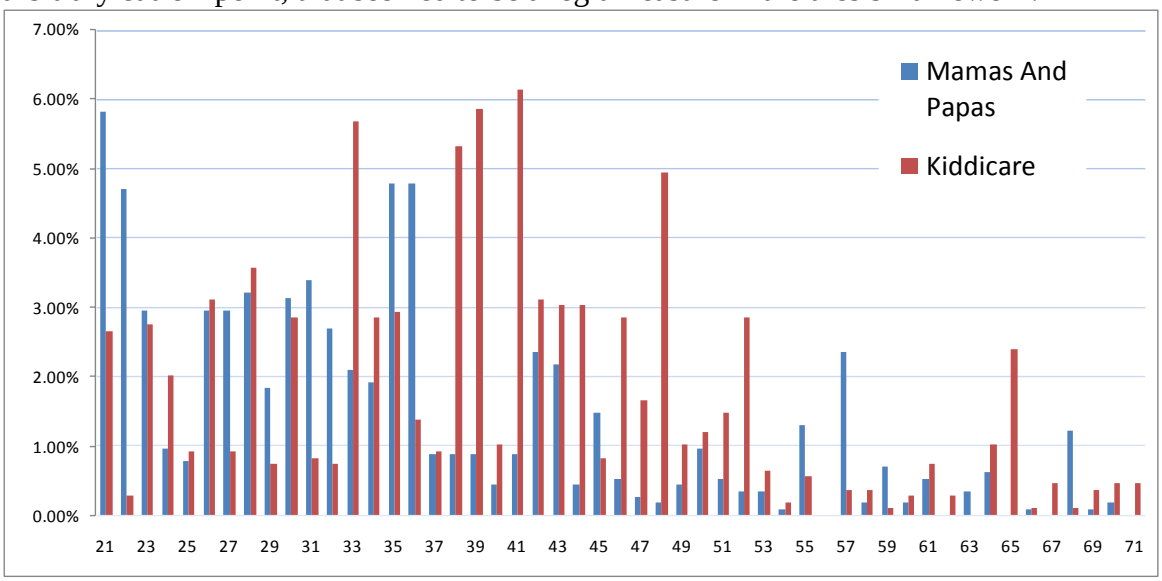

Figure 7: Domain Authority Distribution for Mamas and Papas and Kiddicare

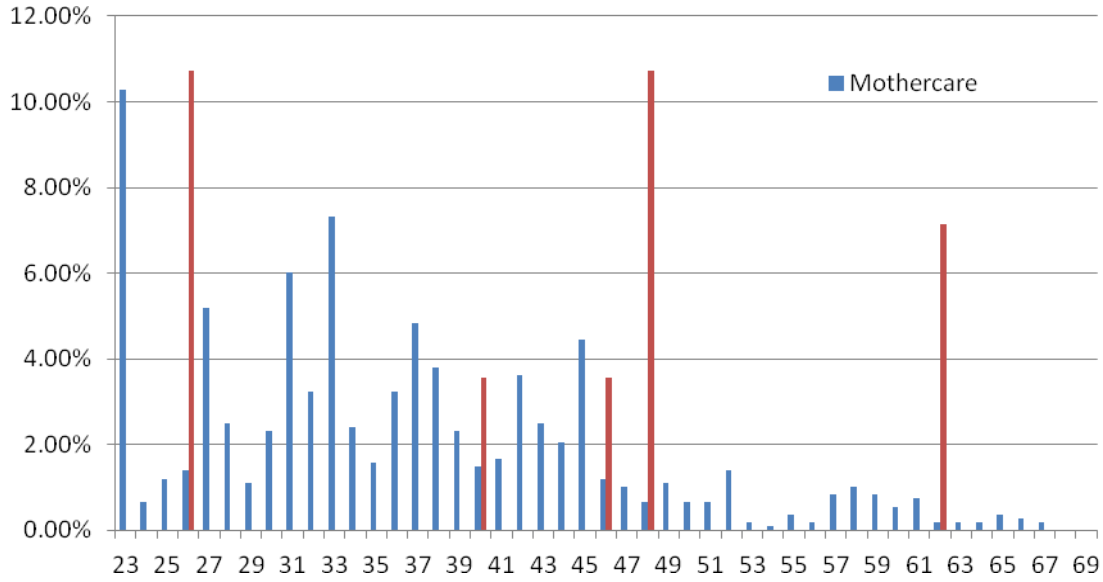

Figure 8: Domain Authority Distribution for Mothercare and Hello Baby Direct

Top Competitors tend to have most of their backlinks having around 18-30 Domain and Page Authority, while Kiddicare is slightly doing better at this. The host firm had

higher page Authority on general than its competitors. Domain Authority as well, however the analysis program did not produce enough data to exactly tell how big the differences are between each company. Considering the data in the Domain Authority Appendix (Appendix II.) and Table 3, it can be seen that nursery companies tend to have similar domain authority backlink profiles differing only in the number of backlinks they have on each authority level. According to this metric, "Hello Baby Direct" (78.29), "Verbaudet" (78.28) and "Jojo Mama Bebe" (70.63) companies' backlinks own the highest domain authority, followed by "Adams" and "Tutti Bambini", however the number of backlinks are low on each firm are relatively low compared to the Top 3 companies "Mothercare", "Mamas and Papas" and "Kiddicare".

Domain Authority of Backlinks Portfolio	Verbaudet	1st baby shop	Adams	Jojo Mama Bebe	Just 4 Baby	Tutti Bambini	Mothercare	Mamas And Papas	Kiddicare	Hello Baby Direct
Average	78.28	29.18	60.90	70.63	49.68	60.68	37.32	31.54	42.54	78.29
Mean	88.00	30.00	59.00	87.00	43.00	52.00	35.00	29.00	40.00	97.50
Mode	100.00	30.00	100.00	100.00	36.00	48.00	23.00	21.00	41.00	100.00
Standard Dev	23.16	1.40	27.95	30.94	18.47	19.54	14.41	16.32	16.46	28.06
Number of Backlinks	25	11	31	30	25	25	1079	1149	1087	28

Table 3: Backlinks Portfolio Domain Authority Statistical Data

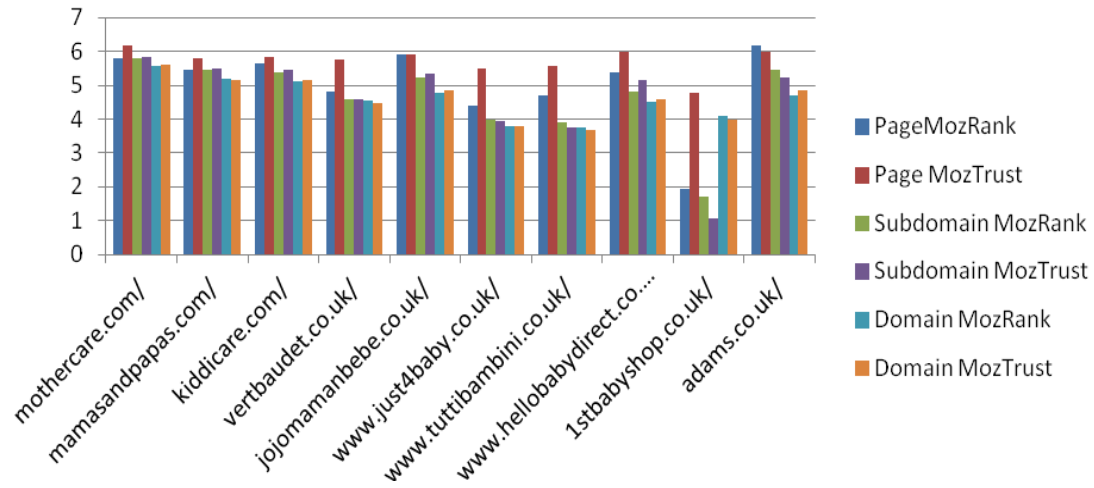

Figure 9: SeoMoz Metrics for each Domain, Subdomain and Main page

The domain trust and rank is similar measure to PageRank, therefore expresses link popularity in face of search algorithms. The higher the numbers are the more popular a website supposed to be. In case of these metrics, no clear pattern can be seen, that can be related to ranking for SERPs for each company. However looking in to the distribution of MozRank scores *(Figure 7)*, it is clearly shown that top companies tend to receive high number of links. Probably due to the scarcity of high authority linking website, the mode

of MozRank distribution is 3, which corresponds with the idea that typically value of MozRank is 3 *(Open Site Explorer)*.

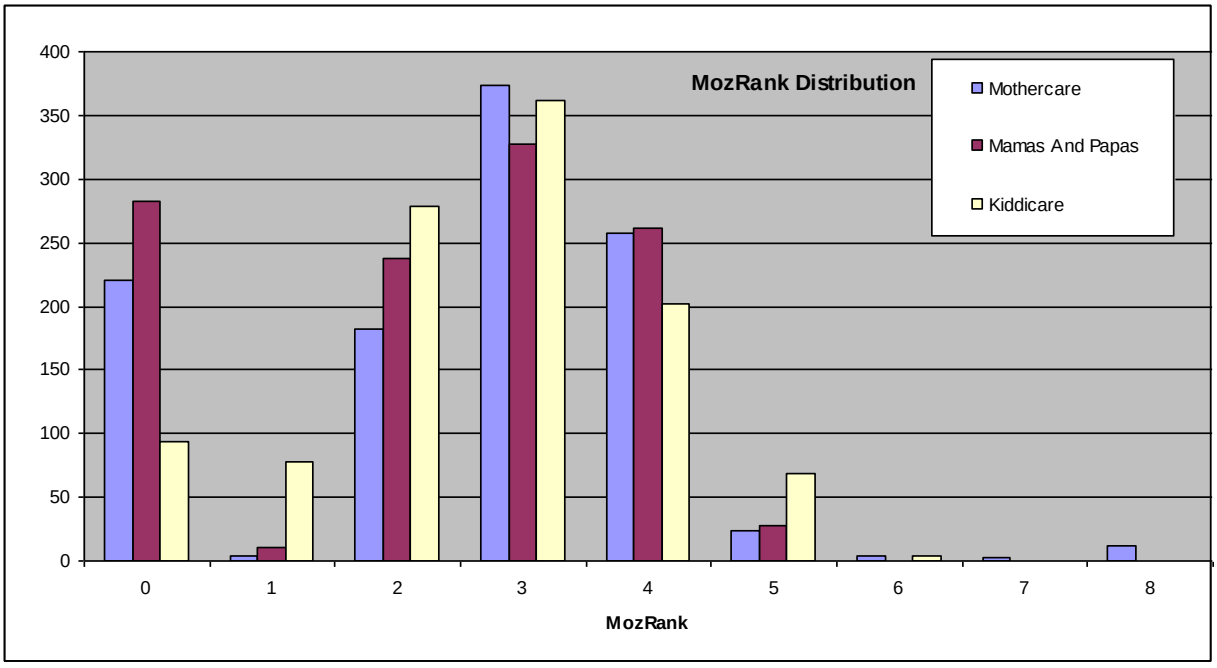

Figure 10: Backlinks Portfolio MozRank Distribution for Top 3 Companies

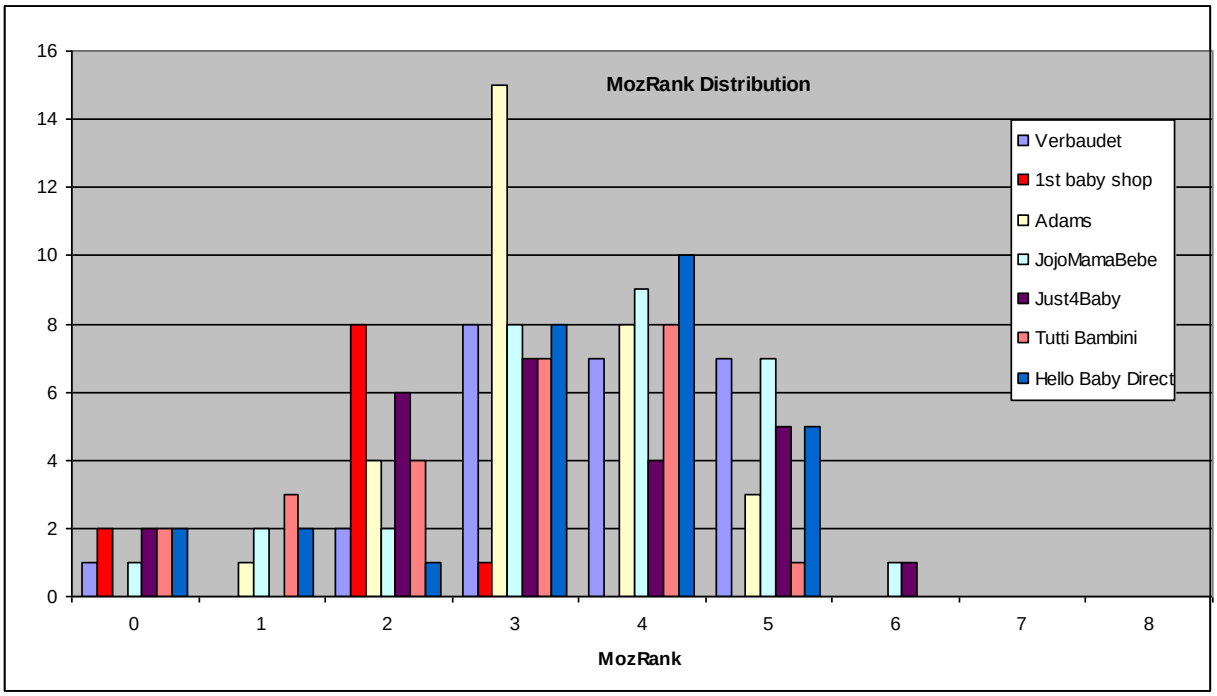

Figure 11: Backlinks Portfolio MozRank Distribution for Other Companies

MozRank	*Mothercare*	*1st Baby Shop*	*Hello Baby*	*Just 4 Baby*	*KiddiCare*	*Jojo Mama Bebe*	*Mamas and Papas*	*Adams*	*Verbaudet*	*Tutti Bambini*
Average	2.57	1.73	3.32	3.20	2.67	3.57	2.31	3.26	3.64	2.76
Mean	3	2	4	3	3	4	3	3	4	3
Mode	3	2	4	3	3	4	3	3	3	4
Standard Dev	1.58	0.90	1.42	1.53	1.30	1.38	1.52	0.93	1.22	1.36

Table 4: MozRank Statistical data

From the overall statistics, "Verbaudet" (3.64) has on average the portfolio with the highest MozRank, followed by "Jojo Mama Bebe" (3.57), "Hello Baby Direct" (3.32), "Adams" (3.26) and "Just 4 Baby" (3.2).

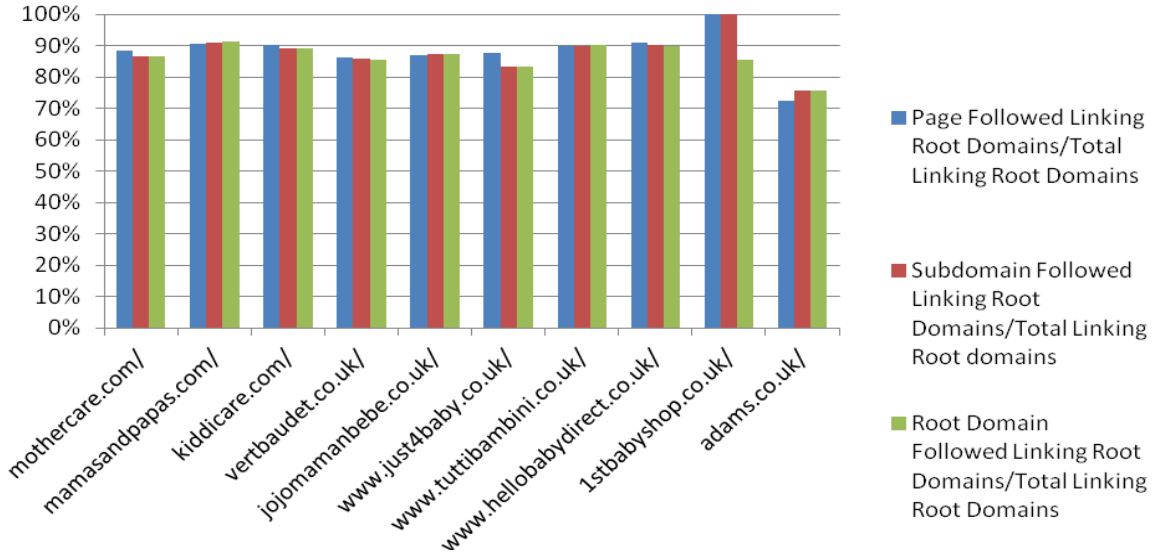

Figure 12: Followed Linking Root Domains

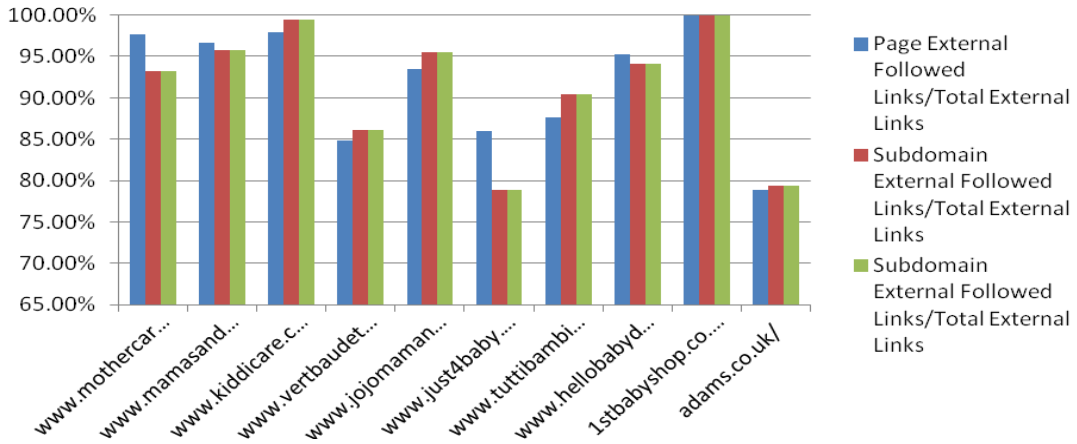

Figure 13: External Linking Root Domain Distribution

From the open site explorer analysis the percentage of follower linking domain and the percentage of external follow links expresses how external site trust the content to be relevant to their portfolio. Search engines consider followed links to be organic and natural connection between websites. Furthermore follow links are the only ones that search engine crawlers follow and index, therefore the higher percentage follow links a website has the better performance a link building strategy can achieve. Search engine are constantly trying to filter link farms and manipulative websites and encourage every website to use "nofollow" attribute in case the link is bought either with money or by any goods. "1st Baby Shop" – even though the sample only contained a few links – received the best follow percentage, followed by "Kiddicare", "Mamas and Papas", "Hello Baby Direct" and "Mothercare".

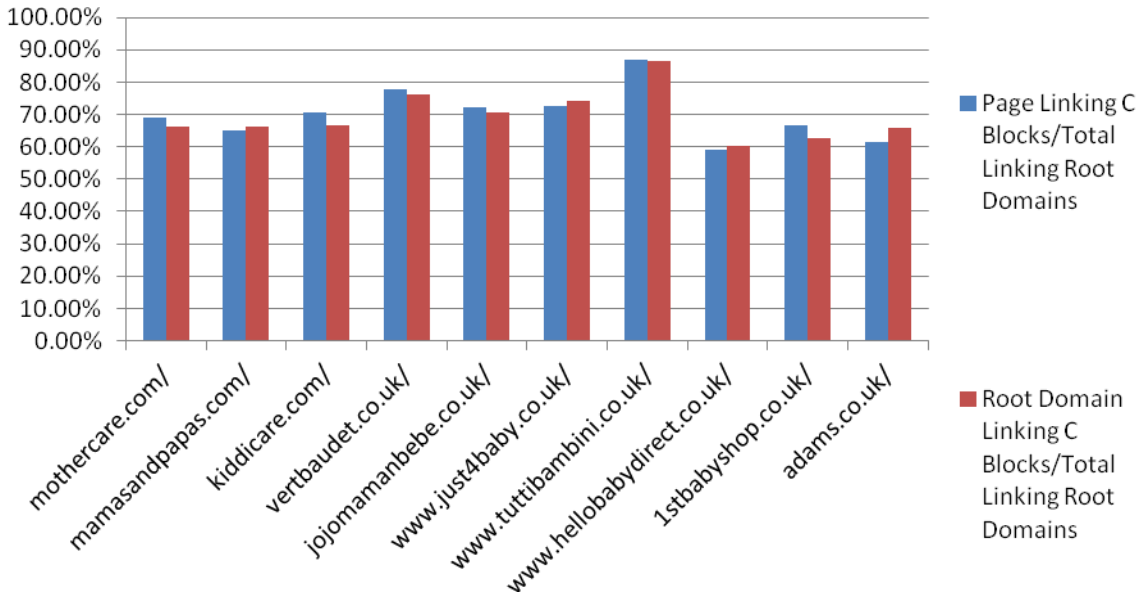

Figure 14: Linking C Blocks

An IP4 address consists of 4 blocks given as AAA.BBB.CCC.D. The third "C" block is considered to be a relevancy criterion for search engines. The more linking C Block a website has the better ranking it can expect from search engines. According to this metric "Tutti bambini", "Verbaudet", "Just 4 Baby", "Jojo Mama Bebe", and "Kiddicare" own the highest percentage of C blocks. Search engines consider their link portfolio stronger than the other competitors' ones. *(Beduin Interactive).* According to Open Site Explorer, the most C block are owned by "Mothercare" (996), "Mamas and Papas" (513) and "Hello Baby Direct" (337), followed by "Jojo Mama Bebe" (335) and "Adams" (331). However from the sample Backlinks analysis "Tutti Bambini", "Verbaudet" and "Just 4

Baby" has the highest percentage of linking C Blocks followed by "Jojo Mama Bebe" and "Kiddicare".

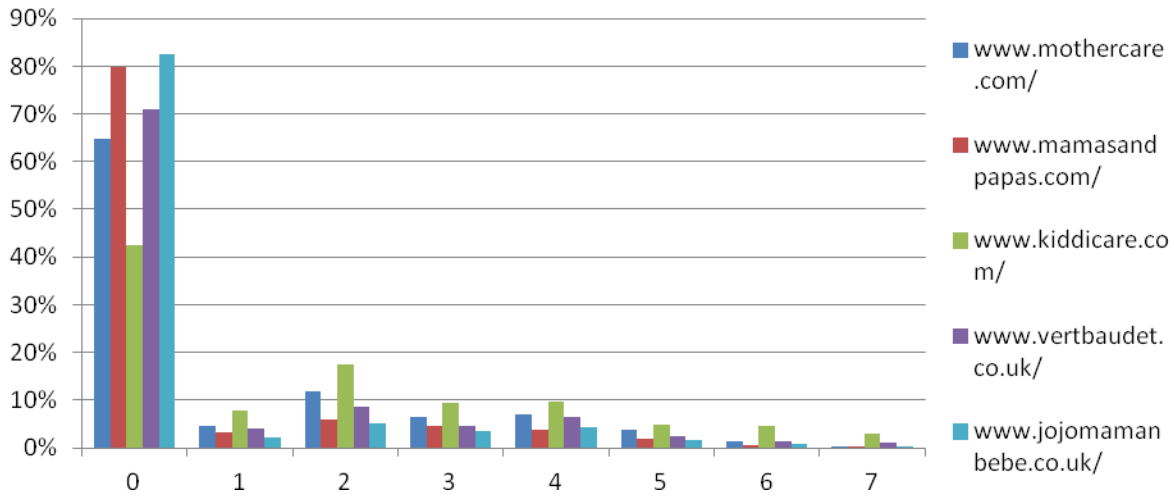

Figure 15: ACRank Distribution for Companies #1-#5

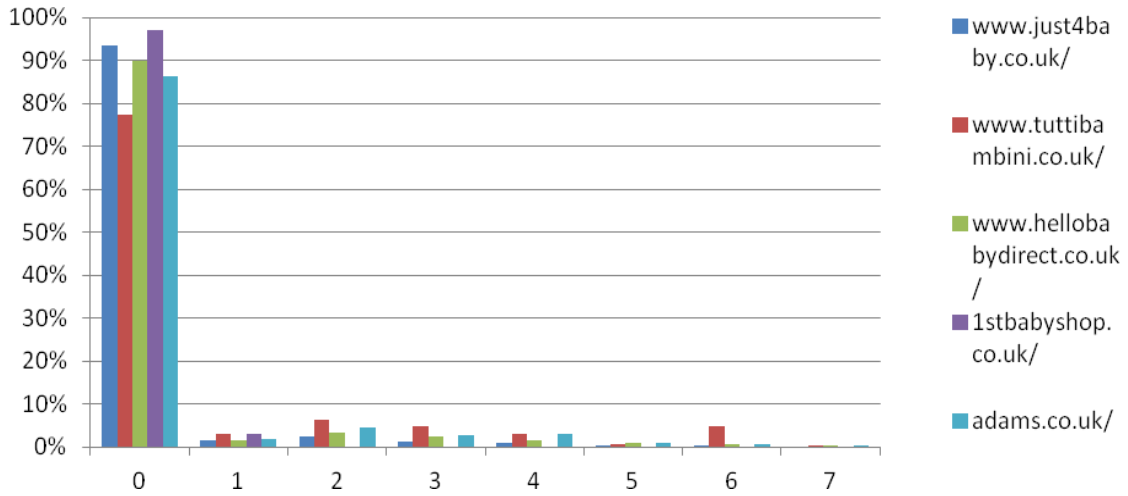

Figure 16: ACRank Distribution for companies #6-#10

From the data source "Raven SEO Tools" an ACRank analysis was performed that showed the distribution of AC Ranks per firm link portfolio. The higher AC Rank a website is the more incoming (external) links it owns. According to the PageRank definition, the search engines consider incoming links from authority websites as "votes" for site relevancy and importance, therefore we can assume that the higher ACRank a website has, the higher authority it will claim when linking to one of the nursery shops. The ACRank distribution clearly shows that high number of linking websites does not claim a significant authority, therefore this metric is difficult to interpret regarding

SERPs ranking. Top websites such as “Mothercare” and Kiddicare” and “Mamas and Papas” have higher number of links from sites of ACRank 2 and 3.

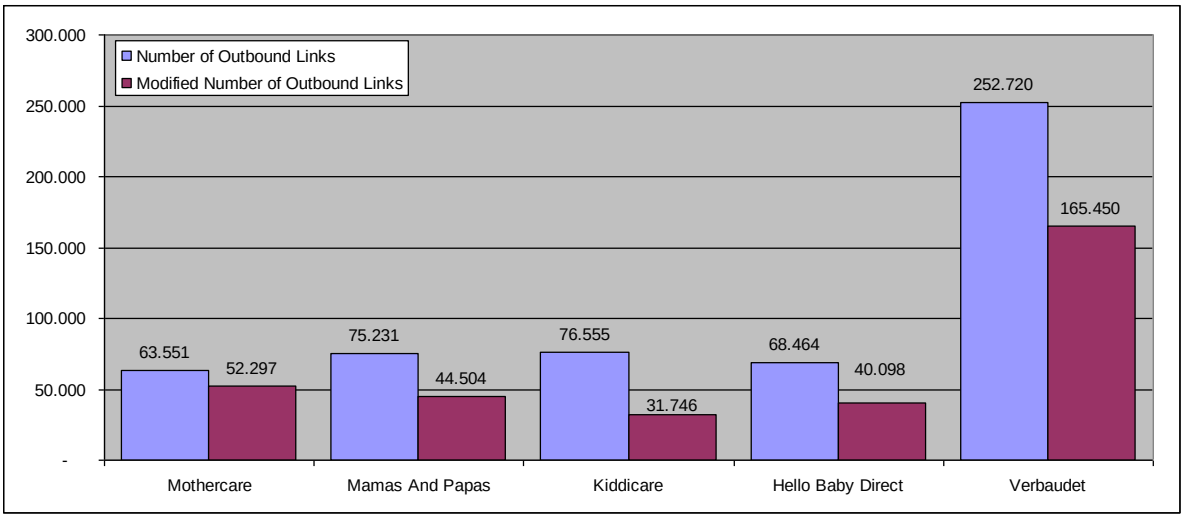

Figure 17: Number of Outbound Links for Companies Link Portfolio #1-#5

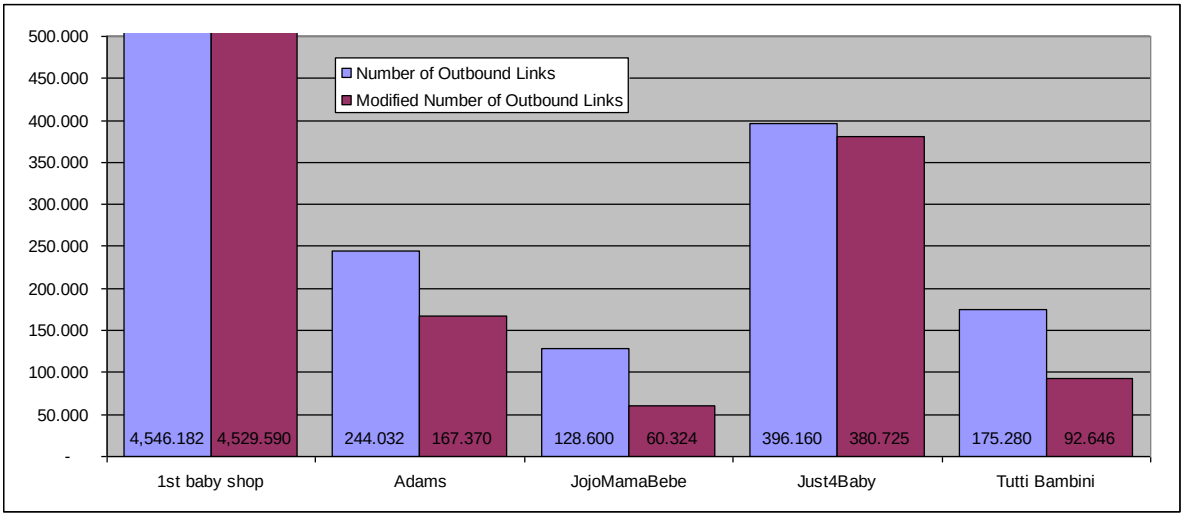

Figure 18: Number of Outbound Links for Companies Link Portfolio #6-#10

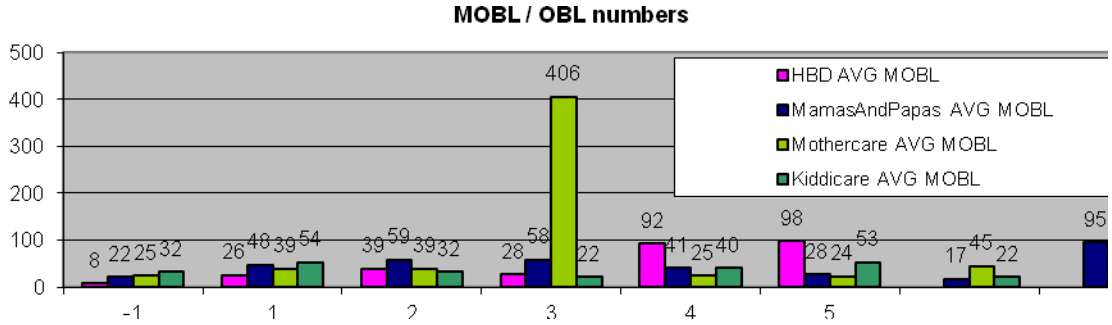

Figure 19: Modified Outbound Link and Outbound Link / PageRank Distribution

The ranking algorithm considers the number of outbound links due to a filter targeted at link farms and directories. Basically search engines would like to devaluate directories and link farms due to their general or many times irrelevant nature to businesses. MOBL considers several links coming from the same domain as one, therefore it essentially lower for every company than OBL number. Directories linking to the nursery shops are devaluated by search engines through OBL and MOBL metric. This metric negatively affects link strength of a website, the value of a link coming from it; therefore websites with high number of outbound links or modified outbound links have low value of linking. From *Figure 17* it can be interpreted that higher PageRank websites tend to have higher number of outbound links: For all four examined website the number of outbound links were increasing with the PageRank value. This means that high authority websites' link value is not necessary higher than a lower quality website's link value in case the high PageRank website have many outbound links. Since the least Outbound links or Modified Outbound Links the link portfolio on average has, the better ranking a company modified outbound link value.

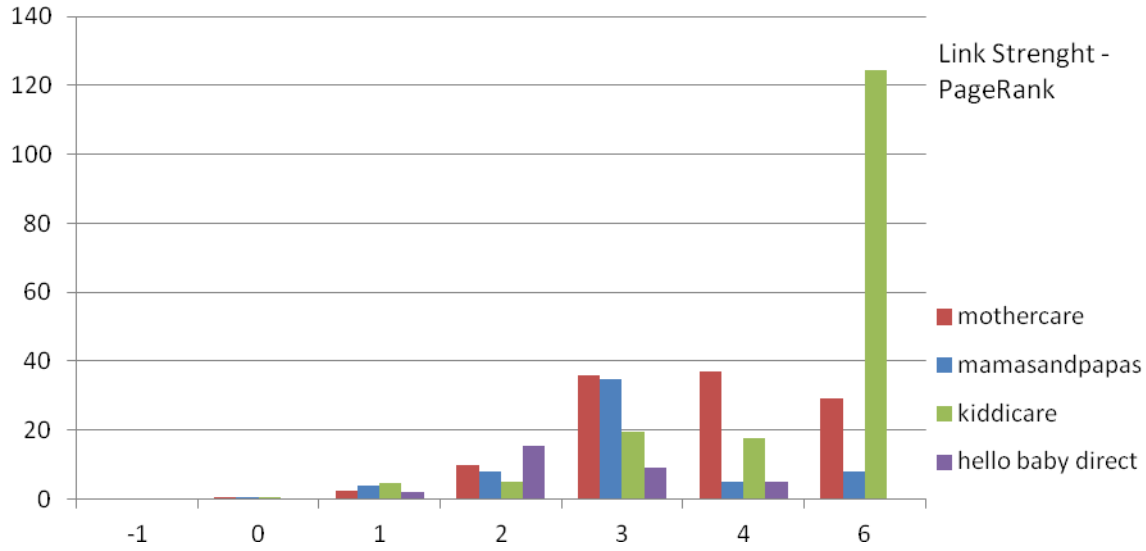

Figure 20: Ling Strength and PageRank distribution

The essential problem with Link Strength is that high PR sites tend to link to many other sites (therefore they have high numbers of Outbound links) which decreases their link strength. However on the low end we can see that low PageRank Sites have low Link Strength, while High PageRank Sites usually have higher Strength. This means overall that a firm should target sites that have high PageRank but low OBL number. The host company was showing similar profile as the first three competitors.

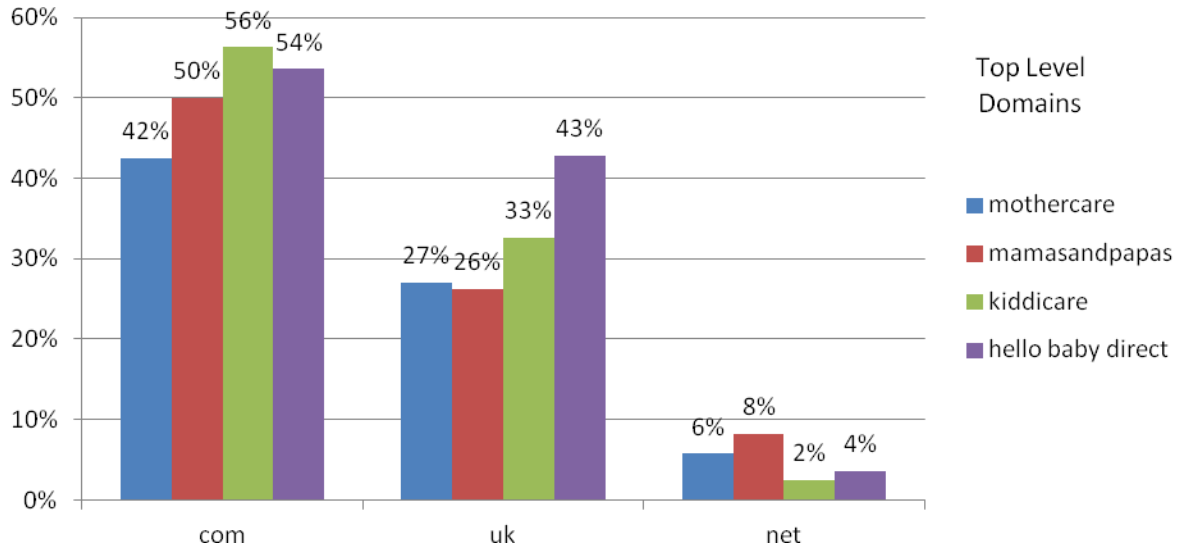

Figure 21: Top Level Domain Distribution

Regarding Top Level Domain, ".com",".uk" and ".net" domains dominate the backlinks of biggest companies and host company. Similar patterns can be observed across other companies as well. The value of certain top level domains generated for the link building strategy is highly debated topic across the SEO community. Some suggest that domains such as ".edu" and ".gov" have higher value because they are essentially connected to higher authorities. From the analysis it is not clear whether the ".com" TLD is essentially dominant because its popularity among websites or for other reasons. The TLD ".uk" can also be accredited by geographic and popularity reasons. According to *Bill Slawski (SEO by the sea) in 2006 "*.com" TLD was used by more than 4.860.000.000 indexed websites making it the most popular TLD, while ".uk" is used by 473.000.000 and ".net" by 206.000.000 websites.

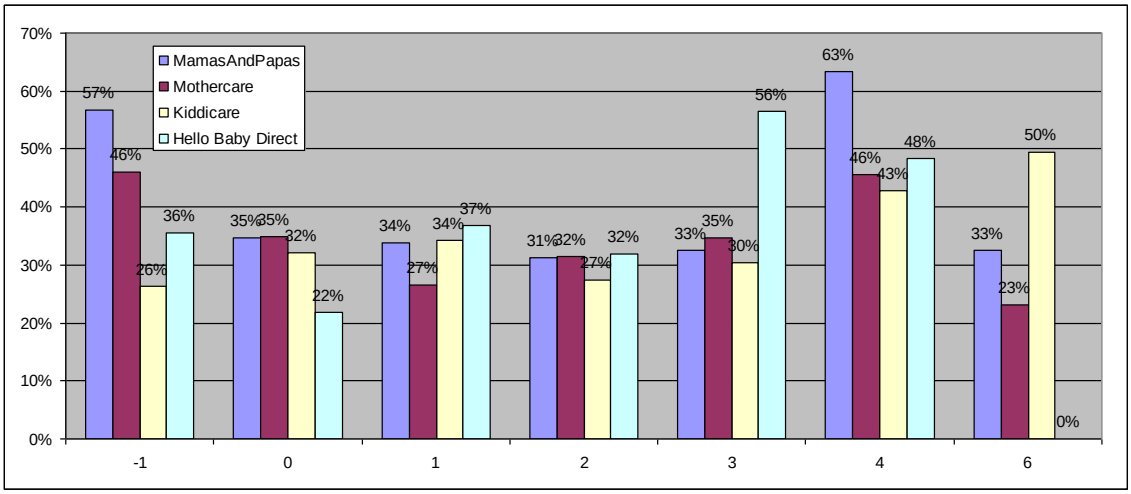

Figure 22: Code to Content Ratio (%) and PageRank Distribution

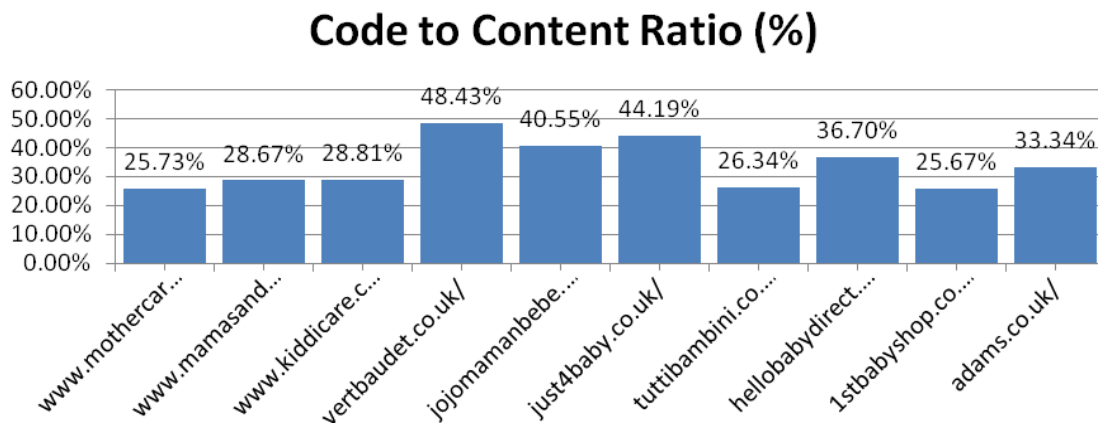

Figure 23: Code to Content Ratio (%)

Code to Content Ratio is the measure between the content part of the document and the whole document. The higher it is the more content a page has compared to the coding part. According to finding, high PageRank sites tend to have higher C2C% ratio, therefore link portfolio with higher C2C ratio assumed to have better impact on search engine algorithms. “Verbaudet” owns the highest C2C ratio 48.42% followed by “Just 4 baby” with 44.18%, “Jojo Mama Bebe” with 40.55%, “Hello Baby Direct” 36.94% and “Adams” with 33.34%.

8 Conclusions and Recommendations

In the link profiling process several link metrics have been analyzed in order to measure the connection between companies' actual appearance in SERPs and the patters of their link portfolio. Answering the second research question it can be clearly seen that companies ranking in the first places have better link metric in general. Due to the small sample size that could be collected regarding the smaller companies there might be some representative bias presented in the analysis, however some significant results still could be obtained.

When answering the second and third research question, the different metric and their significant difference are evaluated. The top three companies ranking in the allinanchor and allintitle search *(Figure 3),* "Mothercare", "Mamas and Papas" and "Kiddicare" maintained better metric regarding Domain and Page Authority metric on the main landing pages *(Figure 5),* the average number of outbound links for link portfolio metric *(figure 18, 19 and 20),* in number of backlinks *(Figure 4).* These companies also ranked among the highest in page authority distribution *(Figure 6)* and followed external linking *(Figure 13 and 14).*

Other metrics resulted in results favourable for smaller companies – the ones that did not appear as significant in the competitor analysis as the top three companies. Domain authority distribution *(Figure 8,9 and Table 3)* indicated the smaller companies (such as the base firm "Hello Baby Direct", "Verbaudet" and "Jojo Mama Bebe") to have a better ranking. This can be caused by the small sample data collected by using the *"Link Diagnosis"* tool. The backlink data collected often contained only the high authority websites that resulted in a high average and high standard deviation as well. Code to Content Ratio *(Figure 23 and 24)* indicated that small companies tend to have better metrics: "Tutti Bambini", "Verbaudet" and "Just 4 Baby" obtained the best results. How significant these results are need to be analyzed in further studies. The ratio of linking C blocks *(Figure 15)* also produced a controversial result; "Tutti Bambini", "Verbaudet" and "Just 4 Baby" ranked the highest among the companies. SEO experts stress the importance of high number of linking C blocks, however considering these results it is not clear whether this metric is as important as before.

Some metrics did not show clear results, or it due to the sample size it was not possible to perform a further analysis. MozRank distribution *(Figure 10, 11 and 12),* ACRank distribution *(Figure 16 and 17)* and Top Level Domain Distribution *(Figure 22)* showed similar patterns for each firm analyzed. There was not any significant difference between the samples analyzed regarding these metrics.

Outbound link profiling helps to understand the difference between the online companies, however due to some controversial results it is important to further look into the connection between metrics and site ranking. By collecting a larger sample of data about a field similar analysis could be performed regarding the linking C Blocks, Domain Authority distribution of backlink portfolio, top level domains and ACRank distribution. In case a larger sample of data could be collected the controversy between quantity of links and quality of links could be alleviated and a better link mapping could be performed. The thesis points out that a company essentially need to consider several factors while performing their off site SEO strategy. Searching for high number of high authority websites with low number of outbound links is an essential factor, that many enterprise does not necessary incorporate in its SEO strategy. The base company itself considered PageRank and content relevancy as a sole factor for deciding upon link bait targets, however it is recommended in the future to measure the number of outbound links as well, to avoid low link strength websites with high ranking but high number of outbound links *(Figure 21).*

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10 Appendixes

10.1 Appendix I: Keyword Research Data

Keyword	Adwords Competition	Adwords Local Monthly Searches (United Kingdom)	Word tracker Importance	SEMRush/Results	SEMRush/AverageVolume
maternity clothes	0.99	74000	13	37,900,000	74,000
baby care	0.64	1300	64	21,800,000	74,000
baby clothes	0.99	49500	498	58,800,000	49,500
Prams	1	22200	111	11,200,000	27,100
Pushchairs	1	14800	4	7,880,000	18,100
baby changing bags	1	8100	5	3,920,000	8,100
maternity swimwear	1	8100	#N/A	3,840,000	8,100
childrens bedroom furniture	1	6600	119	2,710,000	8,100
moses basket	1	14800	87	1,610,000	8,100
baby shops	0.89	5400	120	318,000,000	6,600
high chair	1	2400	93	23,800,000	6,600
baby prams	1	5400	16	13,100,000	6,600
baby clothing	0.97	4400	157	334,000,000	5,400
Stroller	1	1900	95	34,900,000	5,400
cot beds	1	5400	81	2,480,000	5,400
Cribs	0.82	3600	207	36,700,000	4,400
baby car seat	0.98	2400	47	32,400,000	4,400
baby cots	1	4400	15	8,870,000	4,400
nursery furniture sets	1	3600	58	7,760,000	4,400
prams and pushchairs	1	3600	#N/A	4,690,000	4,400
baby stuff	0.97	3600	105	68,400,000	3,600
baby furniture	0.95	3600	271	47,600,000	3,600
changing bags	1	8100	#N/A	10,600,000	2,900
baby carrier	1	3600	61	8,860,000	2,900
nursing chair	1	2900	14	3,230,000	2,900
Strollers	1	5400	370	46,600,000	2,400
baby clothes uk	0.94	2400	4	16,000,000	2,400
travel systems for babies	1	1300	#N/A	14,400,000	2,400
baby travel systems	1	1600	19	13,500,000	1,900
prams for sale	1	2400	#N/A	7,310,000	1,900
baby bath	1	4400	160	2,270,000	1,900
baby stores	0.9	1000	120	554,000,000	1,600
baby shops online	0.97	1000	#N/A	190,000,000	1,600
baby accessories	0.9	1300	56	89,600,000	1,600

baby pushchairs	1	1300	#N/A	10,500,000	1,600
baby toys	0.81	8100	212	354,000,000	1,000
baby bath seat	1	3600	50	3,940,000	720
nursery furniture	1	12100	115	4,530,000	480

10.2 Appendix II: Domain authority Data

Domain Authority Distribution (%)	Verbaudet	1st baby shop	Adams	JojoMamaBebe	Just4Baby	Tutti Bambini	Mothercare	Mamas And Papas	Kiddicare	Hello Baby Direct
8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.96%	0.00%	0.00%
9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	2.00%	0.00%	0.00%
10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.83%	0.70%	0.09%	0.00%
11	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	1.83%	0.09%	0.00%
12	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	1.48%	0.00%	0.00%
13	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.78%	0.18%	0.00%
14	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	3.57%	0.09%	0.00%
15	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	1.57%	0.00%	0.00%
16	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.52%	0.28%	0.00%
17	0.00%	0.00%	6.45%	0.00%	0.00%	0.00%	0.46%	0.96%	0.18%	0.00%
18	0.00%	0.00%	6.45%	0.00%	0.00%	0.00%	0.46%	4.44%	1.93%	0.00%
19	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.78%	0.09%	0.00%
20	0.00%	0.00%	0.00%	0.00%	16.67%	0.00%	1.02%	5.05%	0.46%	0.00%
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	5.83%	2.66%	0.00%
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	4.70%	0.28%	0.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.29%	2.96%	2.75%	0.00%
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%	0.96%	2.02%	0.00%
25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.20%	0.78%	0.92%	0.00%
26	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.39%	2.96%	3.12%	10.71%
27	0.00%	27.27%	0.00%	27.27%	0.00%	0.00%	5.19%	2.96%	0.92%	0.00%
28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.50%	3.22%	3.58%	0.00%
29	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	1.11%	1.83%	0.73%	0.00%
30	0.00%	72.73%	0.00%	72.73%	0.00%	0.00%	2.32%	3.13%	2.84%	0.00%
31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.02%	3.39%	0.83%	0.00%
32	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	3.24%	2.70%	0.73%	0.00%
33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.32%	2.09%	5.69%	0.00%
34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.41%	1.91%	2.84%	0.00%
35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.58%	4.79%	2.94%	0.00%
36	0.00%	0.00%	12.90%	0.00%	0.00%	0.00%	3.24%	4.79%	1.38%	0.00%
37	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.82%	0.87%	0.92%	0.00%
38	4.00%	0.00%	6.45%	0.00%	3.33%	0.00%	3.80%	0.87%	5.32%	0.00%
39	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	2.32%	0.87%	5.87%	0.00%
40	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.48%	0.44%	1.01%	3.57%
41	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.67%	0.87%	6.15%	0.00%
42	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.61%	2.35%	3.12%	0.00%
43	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.50%	2.18%	3.03%	0.00%
44	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.04%	0.44%	3.03%	0.00%
45	8.00%	0.00%	0.00%	0.00%	0.00%	12.00%	4.45%	1.48%	0.83%	0.00%
46	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.20%	0.52%	2.84%	3.57%
47	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.02%	0.26%	1.65%	0.00%
48	4.00%	0.00%	3.23%	0.00%	3.33%	20.00%	0.65%	0.17%	4.95%	10.71%
49	4.00%	0.00%	0.00%	0.00%	3.33%	0.00%	1.11%	0.44%	1.01%	0.00%
50	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	0.65%	0.96%	1.19%	0.00%
51	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%	0.52%	1.47%	0.00%

52	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%	1.39%	0.35%	2.84%	0.00%
53	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.19%	0.35%	0.64%	0.00%
54	0.00%	0.00%	6.45%	0.00%	0.00%	0.00%	0.09%	0.09%	0.18%	0.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	1.31%	0.55%	0.00%
56	0.00%	0.00%	0.00%	0.00%	6.67%	0.00%	0.19%	0.00%	0.00%	0.00%
57	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.83%	2.35%	0.37%	0.00%
58	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	1.02%	0.17%	0.37%	0.00%
59	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.83%	0.70%	0.09%	0.00%
60	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	0.17%	0.28%	0.00%
61	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.74%	0.52%	0.73%	0.00%
62	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	0.28%	7.14%
63	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.35%	0.00%	0.00%
64	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	0.19%	0.61%	1.01%	0.00%
65	0.00%	0.00%	0.00%	0.00%	3.33%	4.00%	0.37%	0.00%	2.39%	0.00%
66	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.09%	0.09%	0.00%
67	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	0.19%	0.00%	0.46%	0.00%
68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.22%	0.09%	0.00%
69	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.00%	0.09%	0.37%	0.00%
70	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.17%	0.46%	0.00%
71	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.32%	0.00%	0.46%	0.00%
72	8.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.00%	0.17%	2.11%	0.00%
73	0.00%	0.00%	9.68%	0.00%	0.00%	0.00%	0.19%	0.35%	0.28%	0.00%
74	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.17%	0.28%	0.00%
75	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.26%	0.00%	0.00%
76	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.83%	0.87%	0.37%	0.00%
77	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%	0.09%	0.00%	0.00%
78	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.35%	0.09%	0.00%
79	4.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.35%	0.46%	3.57%
80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.09%	0.92%	0.00%
81	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.09%	0.09%	0.55%	0.00%
82	0.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.09%	0.26%	0.64%	0.00%
83	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.35%	0.00%	0.00%
84	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.56%	0.09%	0.28%	0.00%
85	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.55%	0.00%
86	4.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.09%	0.00%	0.00%	0.00%
87	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.09%	0.00%
88	8.00%	0.00%	3.23%	0.00%	0.00%	0.00%	0.09%	0.00%	0.00%	0.00%
89	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.26%	0.09%	0.00%
90	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.18%	0.00%
91	4.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%
92	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	0.00%	0.00%	0.00%	0.00%
93	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.57%
94	0.00%	0.00%	0.00%	0.00%	6.67%	0.00%	0.09%	0.00%	0.00%	0.00%
95	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
96	12.00%	0.00%	3.23%	0.00%	3.33%	8.00%	0.00%	0.00%	1.01%	3.57%
97	8.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.37%	3.57%
98	0.00%	0.00%	3.23%	0.00%	13.33%	0.00%	0.00%	0.00%	0.00%	7.14%
99	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	3.57%
100	16.00%	0.00%	12.90%	0.00%	16.67%	4.00%	0.00%	0.00%	0.00%	39.29%

10.3 Appendix III: Top Level Domain Distribution

Top Level Domain	Mothercare	Mamas And Papas	Kiddicare	Hello Baby Direct	Verbaudet	1st baby shop	Adams	JojoMamaBebe	Just4Baby	Tutti Bambini
Ae	2	2	0	0	0	0	0	0	0	0
Am	9	0	0	0	0	0	0	0	0	0
Ar	0	1	0	0	0	0	0	0	0	0
Au	6	12	21	0	0	0	0	0	0	0
Az	5	0	0	0	0	0	0	0	0	0
Be	1	2	2	0	0	0	0	0	0	0
Bg	3	0	0	0	0	0	0	0	0	0
Biz	3	0	2	0	0	0	2	0	0	0
Br	2	0	0	0	0	0	0	0	0	0
By	3	0	0	0	0	0	0	0	0	0
Ca	0	1	0	0	0	0	0	0	1	0
Cat	0	1	0	0	0	0	0	0	0	0
Ch	0	1	0	0	0	0	0	0	0	0
Cn	2	26	0	0	0	0	0	0	0	0
Co	1	0	0	0	0	0	0	0	0	0
Com	458	575	612	15	19	3	13	15	19	16
Cz	12	2	0	0	0	0	0	0	0	0
De	0	5	2	0	0	0	0	0	0	0
Dk	3	0	4	0	0	0	0	0	0	0
Ee	25	0	0	0	0	0	0	0	0	0
Es	1	3	1	0	0	0	0	0	0	0
Eu	5	8	0	0	0	0	0	0	0	0
Fr	0	4	0	0	0	0	0	0	0	0
Ge	2	0	0	0	0	0	0	0	0	0
Gr	3	0	0	0	0	0	0	0	0	0
Hk	9	0	0	0	0	0	0	0	0	0
Hu	0	1	0	0	0	0	0	0	0	0
Ie	4	13	3	0	0	0	4	0	0	0
Il	9	0	0	0	0	0	0	0	0	0
Im	0	1	0	0	0	0	0	0	0	0
In	1	1	2	0	0	0	0	0	0	0
Info	10	17	6	0	1	0	0	0	1	0
It	1	2	0	0	0	0	0	0	0	0
Jp	1	0	0	0	0	0	0	0	0	0
Kr	4	0	0	0	0	0	0	0	0	0

Lt	2	1	0	0	0	0	0	0	0	0
Ly	0	1	0	0	0	0	0	0	0	0
Me	4	2	3	0	0	0	0	0	0	0
Mobi	7	0	0	0	0	0	0	0	0	0
My	2	0	0	0	0	0	0	0	0	0
Net	62	94	27	0	0	0	0	0	2	0
Nl	1	1	1	0	1	0	0	0	1	0
No	3	4	1	0	0	0	0	0	0	0
Org	27	10	10	1	0	8	2	2	1	0
Pl	12	1	1	0	0	0	0	0	0	0
Pt	1	0	0	0	0	0	0	0	0	0
Ro	17	0	0	0	0	0	0	0	0	0
Ru	31	17	4	0	0	0	0	0	0	0
Se	0	2	0	0	0	0	0	0	0	0
Si	0	2	0	0	0	0	0	0	0	0
Tr	1	0	0	0	0	0	0	0	0	0
Tv	1	7	25	0	0	0	0	0	0	0
Ua	26	26	1	0	0	0	0	0	0	0
Uk	291	302	355	12	4	0	10	13	0	9
Us	0	0	2	0	0	0	0	0	0	0
Uz	0	1	0	0	0	0	0	0	0	0
Vn	6	0	0	0	0	0	0	0	0	0
Ws	0	0	1	0	0	0	0	0	0	0
Za	0	0	1	0	0	0	0	0	0	0

10.4 Appendix IV: Link Portfolio Statistical Data

www.mothercare.com/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	-0.17	63.55	52.30	3.79	2.57	29.11	37.32	49.69	14.58	25.73
Median	-1.00	13.00	10.69	0.00	3.00	28.00	35.00	23.12	5.03	21.71
Mode	-1.00	0.00	0.00	0.00	3.00	25.00	23.00	0.00	0.00	0.00
Standard Dev	1.43	835.03	831.24	19.71	1.58	5.95	14.41	208.03	93.60	22.77
Relative Standard Deviation	-855%	13	16	520%	62%	20%	39%	419%	642%	88%

www.mamasandpapas.com/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	-0.56	75.23	44.50	1.64	2.31	25.21	31.54	83.80	37.68	28.67
Median	-1.00	12.00	9.90	0.00	3.00	24.00	29.00	22.30	5.86	23.85
Mode	-1.00	0.00	0.00	0.00	3.00	19.00	21.00	0.00	0.00	0.00
Standard Dev	1.28	190.03	116.02	10.34	1.52	6.84	16.32	379.63	222.00	24.20
Relative Standard Deviation	-228%	3	3	629%	66%	27%	52%	453%	589%	84%

www.kiddicare.com/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	-0.02	76.55	31.75	3.56	2.67	31.71	42.54	58.40	18.65	28.81
Median	-1.00	22.00	15.05	0.00	3.00	31.00	40.00	21.54	5.61	23.69
Mode	-1.00	0.00	0.00	0.00	3.00	27.00	41.00	0.00	0.00	0.00
Standard Dev	1.65	197.80	158.34	17.91	1.30	6.95	16.46	119.84	52.44	22.53
Relative Standard Deviation	-9949%	3	5	503%	49%	22%	39%	205%	281%	78%

www.vertbaudet.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	1.68	252.72	165.45	7.76	3.64	48.72	78.28	80.73	27.57	48.43
Median	2.00	71.00	44.68	1.00	4.00	48.00	88.00	25.34	14.28	43.33
Mode	-1.00	45.00	7.43	0.00	3.00	43.00	100.00	n/a	n/a	n/a
Standard Dev	2.04	530.13	457.54	25.44	1.22	5.62	23.16	110.34	33.86	22.93
Relative Standard Deviation	121%	2	3	328%	34%	12%	30%	137%	123%	47%

www.jojomamanbebe.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	1.27	128.60	60.32	7.07	3.57	44.77	70.63	99.48	45.88	40.55
Median	2.00	38.50	19.38	1.50	4.00	46.00	87.00	50.00	11.73	33.24
Mode	3.00	208.00	11.01	0.00	4.00	54.00	100.00	50.00	9.67	19.34

Standard Dev	2.16	252.08	145.67	13.05	1.38	11.22	30.94	152.02	72.94	25.22
Relative Standard Deviation	171%	2	2	185%	39%	25%	44%	153%	159%	62%

www.just4baby.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	0.00	396.16	380.72	3.24	3.20	31.80	49.68	82.15	36.01	44.19
Median	-1.00	36.00	33.69	0.00	3.00	30.00	43.00	25.37	8.99	43.29
Mode	-1.00	21.00	18.56	0.00	3.00	30.00	36.00	21.71	6.47	29.80
Standard Dev	1.63	1033.84	1030.81	8.54	1.53	4.64	18.47	120.16	60.57	22.81
Relative Standard Deviation	n/a	3	3	263%	48%	15%	37%	146%	168%	52%

www.tuttibambini.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	0.24	175.28	92.65	0.88	2.76	36.84	60.68	64.97	23.09	26.34
Median	-1.00	47.00	33.30	0.00	3.00	34.00	52.00	28.45	8.11	26.51
Mode	-1.00	0.00	0.00	0.00	4.00	32.00	48.00	0.00	0.00	0.00
Standard Dev	1.59	471.11	269.68	2.45	1.36	7.56	19.54	132.29	66.98	19.23
Relative Standard Deviation	662%	3	3	279%	49%	21%	32%	204%	290%	73%

www.hellobabydirect.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	1.61	68.46	40.10	5.75	3.32	46.96	78.29	46.95	16.33	36.70
Median	2.00	42.50	21.44	1.50	4.00	48.50	97.50	17.91	7.56	26.43
Mode	-1.00	0.00	0.00	0.00	4.00	55.00	100.00	0.00	0.00	0.00
Standard Dev	2.22	95.58	73.81	12.49	1.42	13.88	28.06	54.31	20.32	30.40
Relative Standard Deviation	138%	1	2	217%	43%	30%	36%	116%	124%	83%

www.1stbabyshop.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	-1.00	4546.18	4529.59	0.00	1.73	18.45	29.18	405.83	108.94	25.67
Median	-1.00	5000.00	4979.93	0.00	2.00	18.00	30.00	443.90	119.41	26.90
Mode	-1.00	5000.00	4975.76	0.00	2.00	18.00	30.00	445.29	120.10	26.97
Standard Dev	0.00	1505.14	1499.65	0.00	0.90	6.47	1.40	127.10	35.14	4.13
Relative Standard Deviation	0%	0	0	#DIV/0!	52%	35%	5%	31%	32%	16%

www.adams.co.uk/	PR	OBL	MOBL	STR	mozRank	SEOmoz Page Authority	SEOmoz Domain Authority	D. Size(KB)	C. Size(KB)	C2C Ratio %
Average	1.55	244.03	167.37	9.94	3.26	41.71	60.90	160.50	58.35	33.34
Median	2.00	14.00	10.71	1.00	3.00	46.00	59.00	22.30	9.54	33.37

Mode	2.00	0.00	0.00	0.00	3.00	43.00	100.00	0.00	0.00	0.00
Standard Dev	1.71	714.01	500.58	18.60	0.93	12.42	27.95	517.81	190.33	24.20
Relative Standard Deviation	110%	293%	299%	187%	29%	30%	46%	323%	326%	73%