

## Review

# Google analytics: Tips for micro-firms

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Accepted 7 June, 2012

**The free web analytics tools launched by some search engines (for example, Google analytics and yahoo web analytics) have the potential to be turned into key marketing tools for small businesses and long tail websites. Web analytics, however, is not just about the number of people visiting a site, but is also about the quality of the traffic and what the visitors do when they access a site. The aim of this article is to suggest some user-friendly relevant tips to be used with Google Analytics (metrics) by micro-firms. For this purpose, simple cross-sectional data is utilized.**

**Key words:** Google analytics, small and medium enterprises (SMEs), e-Commerce, website evaluation, search engine optimization (SEO), search engine marketing (SEM), e-brand, online advertising, adWords, web usage mining.

## INTRODUCTION

The gap between big and small firms in using e-business applications and ICTs appears to be relatively smaller in the tourism sector than in other industries (European Commission, 2006). Indeed, when looking at the size of the companies involved and ICT adoption, the most outstanding fact is that small tourism firms are more active users of e-business compared to their counterparts from other industries (European Commission, 2006). In this context, this article will show that small micro-firms can develop and implement web analytics small business friendly solutions using the Google Analytics application.

As the internet has changed from being a means of technology to a channel of customer relationship and sales, companies have had to revolutionize their website usage evaluation strategies. This is done through new approaches that can assist practitioners to evaluate visitors' preferences, and thus upgrade the sites' business utility. Web analytics is not just about the numbers coming to visit a website, but is also about the quality of the traffic and what the visitors do when they enter a website (Web Analytics Association, 2006).

There is a lot of work being done at industry level to develop metrics for media planning and online marketing. Web analytics is a key part of online marketing, since its

primary concern is to measure how effectively a website pursues its objectives. Web analytics is the compilation, measurement, study and reporting of internet data for the purpose of understanding and optimizing web usage. Web analytics provides data on the number of visitors, page views, etc with which to gauge traffic and popularity trends, all of which are a great help for carrying out market research, providing, that is, there is a clear understanding of the driving-forces behind the visitor and the visit.

The launch of free web analytics tools by search engines (for instance, Google Analytics and yahoo web analytics) can serve as a key marketing tool for small businesses and micro-firms. Lack of skills in the analytics area is all too common, with web analytics in particular being a difficult field. To translate the data into functional and useful metrics, the webmaster will require a web analytics consultant. The present industry rates for employing or sub-contracting such an expert could easily generate a cost of more than \$20,000 to \$30,000, which is likely to be beyond the means of many small and medium enterprises throughout the world.

Website owners are primarily interested in the number of clicks and pathways. This is useful, but it does not

provide an understanding of the driving-forces motivating the visitor when navigating through the website. Interpretation of visitor behaviour is a critical dimension of the elevation of web analytics into business intelligence. Web analytics is not just about the numbers of people visiting a site, but is also about the quality of the traffic and what the visitors do after they have entered the site. Google Analytics is the dominant tool among smaller companies, while Omniture and Coremetrics are the packages of choice for larger e-Commerce firms. But, can Google Analytics supply the strategic and sufficiently sound analytics necessary for even the small players?

The aim of this article is to further develop the methodology initiated by Plaza (2010) on the use of time series with Google Analytics data, and to supply some user-friendly metrics for micro-firms. It is interesting to see how simple indicators can help site owners and small firms, enabling them to make websites more visible to search engines, whilst being able to postpone the contracting of web analyser professionals (consultants) for a later optimisation stage. The focus of this article is experimental and features the analysis of a case study.

The article is structured as follows. Firstly, a review of the literature on Google Analytics is supplied. Secondly, the author sets up some easy tips (metrics) for Webmasters (non-professionals) utilizing Google analytics, in order to evaluate the effectiveness of each traffic source (including direct visits, referral entries and search engine arrivals). This is followed by a google AdWords keyword tool validation check and finally the conclusions.

## LITERATURE REVIEW

Several articles in relation to knowledge management, internet usage and impacts analysis have been published by 'Scientific Research and Essays' in recent years: Ureigho et al. (2006) analyse the impact of internet usage on state tertiary institutions. Wadembere and Ssewanyana (2010) study the IT trends for GIS/spatial information management. Ebrahim et al. (2009) analyse virtual R&D teams in small and medium enterprises (SMEs and micro-firms). Rahman and Wang (2010) examine business intelligence practices in engineering companies. Akman and Rehan (2010) analyze socio-demographic and behavioural factors on professionals' e-commerce attitudes. However, the combination of Google Analytics data with cross sectional analysis is a novelty for the whole discipline.

Various scientific articles have analysed the use of Google Analytics and evaluated its usefulness as a web analytics tool<sup>1</sup>. Fang (2007) and Rodriguez-Burrel (2009)

used Google Analytics to evaluate and develop a library website, utilizing the ordinary reports from google analytics, although without developing specific metrics. Hasan et al. (2009) suggest specific web metrics that are useful for quickly indentifying potential usability problems of e-commerce websites. Betty (2009) explores the use of Google Analytics to track usage statistics for interactive Shockwave Flash (.swf) files, the common file output for screen cast and Flash projects. Plaza (2009) explores some statistical matters with regard to the use of Google Analytics data in combination with time series methodology. Plaza (2011) analyses the effectiveness of entries (visit behaviour and length of sessions) depending on their traffic source for a website, using time series analysis. Finally, Plaza (2010) explores some basic strategic rules for information professionals in connection with Google analytics. The aim of this article is to set up Google Analytics e-Metrics for small and medium enterprises (SMEs), using basic cross-sectional data for a case study.

## GOOGLE ANALYTICS

Web analytics present statistical data in a visual way for website owners thereby enabling them to better comprehend the interaction between their visitors and their sites. Google Analytics explains statistical data in an easy-to-understand, simple and uncomplicated manner. There are many features of Google analytics, and the website manager should spend some time exploring them to see whether the site is getting qualified visitors. The focus of this article is experimental and concerns the analysis of the following case:

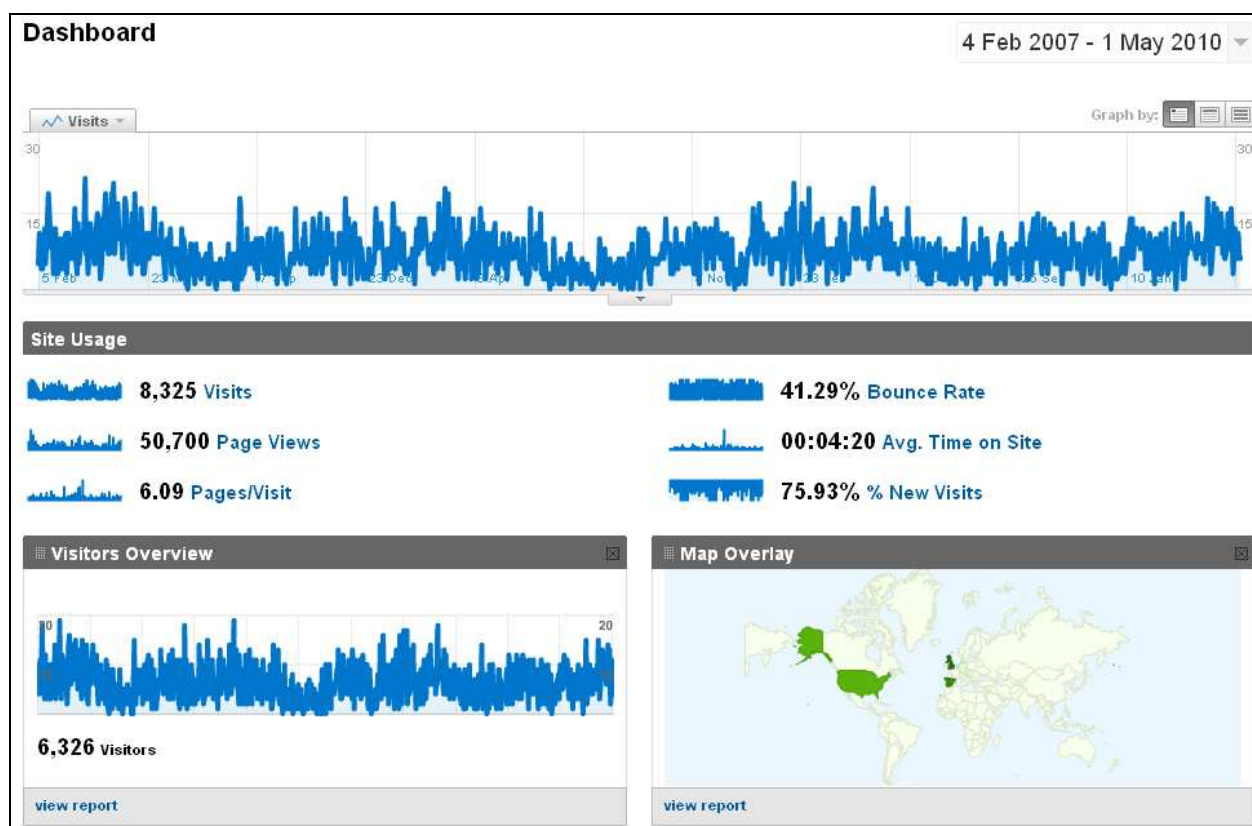
<http://www.scholars-on-bilbao.info> (Art4pax Foundation, 2012). The findings might provide insights for other small Webmasters into using Google Analytics for analysing web performance.

### Google analytics dashboard

When the website manager clicks into the reports, Webmasters will see the overall website usage numbers (Figure 1). Here are the basic metrics to see what is happening on the site:

- (1) 'Visits' is the number of times someone interacted with the particular website
- (2) 'Bounce rate' is the percentage of visitors that instantly left the site
- (3) 'Page views' is how many pages were viewed during those visits
- (4) 'Average time on (the) site' tells how long people stayed on the site.
- (5) 'Percent of new visits' tells how many people visited

<sup>1</sup>For the basics in web usage mining, Spiliopoulou (2000) and Ortega and Aguillo (2009). For an updated review on web mining technologies, Cucui et al., 2010; Law et al., 2010).



**Figure 1.** Google Analytics Dashboard for www.scholars-on-bilbao.info (daily data, 4 Feb 2007 to 1 May 2010), Source: Google Analytics for www.scholars-on-bilbao.info.

the site for the first time

With just these basic metrics the site manager has an idea of what is happening on the site. Google Analytics reports allow Webmasters to compare data from different date ranges. They also allow access to detailed information on visitors, and where these visitors were viewing from, referred to as geographical segmentation. For this particular website <http://www.scholars-on-bilbao.info>, geographical segmentation shows that 18% of visitors were accessing from the United States, 16% from Spain, 13% from Great Britain, 5% from the Netherlands, 4% from Germany and 3.7% from Canada (Figure 1).

'Content by Titles' presents a list of the most popular items on the website. By analyzing data from this feature, the site manager can figure out what content is attracting visitors.

### Traffic sources overview

The traffic sources overview shows how people arrived at the site (Figure 2):

- (1) 'Direct traffic' includes people who typed the particular site's URL, or those who clicked on a bookmark.
- (2) 'Referring sites' are other websites which send traffic to our website, in-links and referrals from e-mails.
- (3) 'Search engines' represents Google, Yahoo, MSN, and others. This section would include organic (non-paid) traffic. That is, traffic the website owner did not pay for, as well as 'pay per click' that the website owner did pay for.

### Referring sites

Website managers look for sites that refer traffic to his/her website. Firstly, the website manager can identify previously unknown in-links that are sending traffic to the owners. The web owner can make use of this information: For instance, visit the website, see in what way they are referring traffic, analyze the type of visits that they are referring, and study how the web manager can cater to the referred traffic. Secondly, if the web manager has made an effort to publicize the website through particular channels, the extent to which these efforts are paying off in terms of increased traffic can be

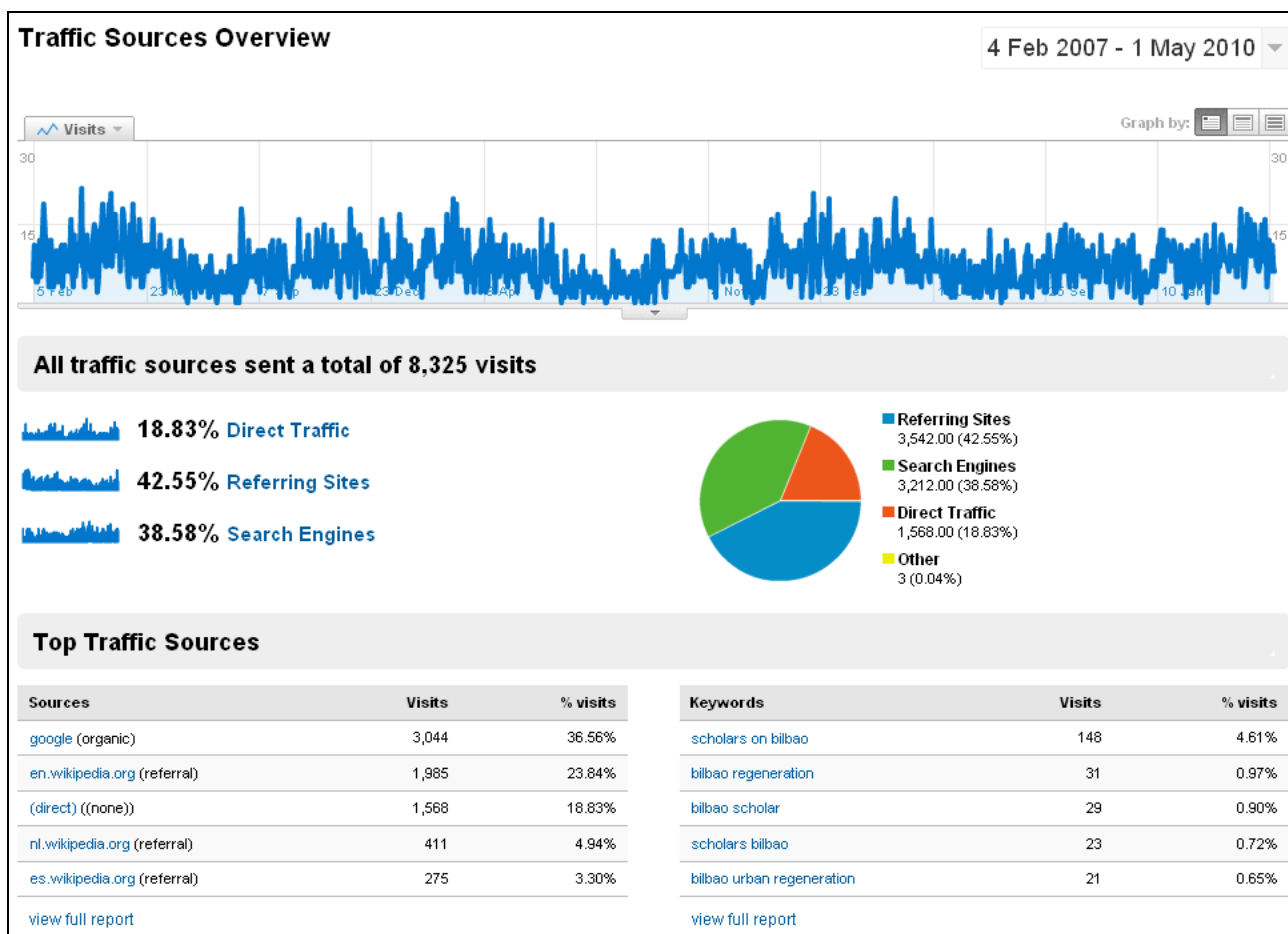


Figure 2. Google Analytics Traffic Sources Overview for www.scholars-on-bilbao.info (daily data, 4 February 2007 to 1 May 2010), Source: Google Analytics for www.scholars-on-bilbao.info.

seen through Google Analytics.

### Search engines and keywords

Making a website findable is critical to its success. Brands want to maximum exposure on the internet and on mobile phone handsets through the use of search engine marketing. Search engine optimization (SEO) is about having your website, brand, product, service or diffusion ranked highly in search engines, under the right keywords and phrases, in order to achieve and maintain visibility, as well as brand recognition and reputation. It is important to understand which search engine is working for the owner of the site, and why.

Which search terms are the best performers? Search terms are a critical way to understand the website's audience (keywords in Figure 2). Are visits arriving at the website correctly based on the visitors' searches? The

website manager could check the keywords and meta-data on the web pages to make sure that misleading keywords are not causing miss-indexing by the search engines. The website manager should also repeatedly check the meta-data for the web pages to make sure that they provide the right words to increase traffic generated by search engines.

Which keywords qualify as low bounce rate traffic? Each keyword tells you what the visitor expects to find in the site. In fact, keywords with a high bounce rate show that the website manager failed to meet those expectations.

As said before, Google Analytics has the capacity of tracking both paid searches and unpaid searches for different search engines. It is useful to separate the organic traffic from the paid traffic, so that the webmaster can identify paid keywords with high bounce rates. The site manager should figure out whether the website owner is driving traffic to the wrong keywords or driving

traffic to the wrong landing pages, as well as identifying keywords with a high bounce rate and thereby stop spending on paid keywords that have high bounce rates. Furthermore the Webmaster should identify landing pages that need to be made more relevant.

In the following areas, Google Analytics is tested for the following website: <http://www.scholars-on-bilbao.info>.

## Hypotheses

Plaza (2010) performed time series analysis with Google Analytics demonstrating that:

**Rule #1:** Return visits navigate deeper into the website and stay longer (that is, there is more time spent at the site and/or a greater number of pages viewed per visit).

**Rule #2:** The lower the bounce rate (that is, the number of erroneous visits), the longer the visit length (with regard to the time spent at the site and/or the number of pages viewed per visit).

**Rule #3:** The greater the return visit rate, the lower the bounce rate (that is, the number of error visits).

These rules are tested for simple cross-sectional data supplied by Google Analytics in the following area. The aim of this work is to provide some user-friendly strategic tips for micro-firms and website owners.

## Hypotheses testing

Our tested website is <http://www.scholars-on-bilbao.info>. Launched in July 2006, this website pursues the dissemination of R&D results in the field of 'Cultural Policy as Development Policy', through the exchange of research work on the Guggenheim Museum Bilbao case. In February 2007 the Webmaster started to analyse web traffic using Google Analytics (<https://www.google.com/analytics/>). From 4 February 2007 to 1 May 2010, Google Analytics registered 8,325 entries. Of those visits 1,568 came directly to this site, referring sites sent 3,542 visits via 131 sources, and search engines sent a total of 3,212 visits, mainly through Google. Reference site traffic is, by far, the main source of entries for [www.scholars-on-bilbao.info](http://www.scholars-on-bilbao.info): almost 42.55% of the total incoming visits; that is, 3,542 entries through in-links, 1,985 of which enter from [en.wikipedia.org](http://en.wikipedia.org) (Figure 1). But how deep into the website do in-links visits navigate in comparison with other traffic sources? Are Wikipedia references more effective than other referrals? Which is the most effective traffic source? How deep do Google entries navigate? What are the most effective

keywords?

For the purpose of supplying a preliminary reply to these questions, the aforementioned three rules (and key metrics) are applied in order to measure simple cross-sectional data as follows:

(1) The first step is to collect all the data (Table 1): the number of visits for each traffic source, session length (that is, the time spent on the site and/or the number of pages viewed per visit), the bounce rate and the return visits rate. These indicators correspond to average values for the period 4 February 2007 to 1 May 2010.

(2) Then, the traffic sources have to be sorted according to traffic volume; a ranking from the highest to the lowest traffic volume source is established (Table 2). Next, the top ten are selected (marked traffic sources in Table 2).

(3) Then, the top traffic sources with the highest return rate should be selected (Table 3). The key questions are the following: What are the traffic sources that generate traffic and also produce a high return rate? What are the traffic sources that produce entries and achieve a return rate above average? The answers can be seen in Table 3. In general, return visits travel deeper into the website and bounce less. It is for this reason that 'maximizing return rate' criteria has been chosen. However, the website owner can either choose to minimize 'bounce rate' or to maximize session length - with regard to the time spent at the site and/or the number of pages viewed per visit. For this particular website, it can be seen that the most effective traffic sources are the keywords 'scholar', 'Bilbao', 'museum' and 'Guggenheim' for search engines, direct traffic and Google (Table 3).

(4) Next, a scatter plot is created for the return rate against the number of pages viewed per visit for all the main traffic sources (Figure 3). From Figure 3 it can be seen that there is a positive relationship between return rates and the number of pages viewed per visit for the traffic sources (Rule No. 1).

(5) The next stage is to scatter plot bounce rates against the number of pages viewed per visit (Rule No. 2 in Figure 4). The aim here is to identify the qualified low bounce traffic sources. The keyword 'scholar' in search engines is by far the traffic source that qualifies with the lowest bounce rate (Figure 4). Then, well behind, direct traffic and the keyword 'Bilbao' in search engines perform also relatively well in terms of qualified low bounce rate traffic.

(6) The next stage is to scatter plot bounce rate against return rate for all the traffic sources (Figure 5). From Figure 5 it can be seen here that there is a negative relationship between bounce rate and return rate (Rule No. 3). The keyword 'scholar' is by far the traffic source that qualifies both the highest return rate and the lowest bounce rate. Then, well behind, direct traffic and the keyword 'Bilbao' in search engines perform also relatively well in terms of higher return rates and qualified low

**Table 1.** Traffic sources for www.scholars-on-bilbao.info (average values from 4 February 2007 to 1 May 2010).

Source	Visits	Pages per visit	Average time on site	Bounce rate (%)	Return visits rate (%)	
Traffic sources	Total	8.325	6.09	0:04:20	41.29	24.07
	Direct traffic	1.568	7.47	0:05:30	36.29	30.42
	Referring sites	3.542	5.79	0:04:00	40.74	40.74
	Search engines	3.212	5.75	0:04:07	44.36	26.21
Top 10 referring sites by traffic	en.wikipedia.org / referral	1.985	6.52	0:04:46	32.14	19.80
	nl.wikipedia.org / referral	411	3.38	0:00:54	58.39	5.60
	es.wikipedia.org / referral	275	5.04	0:02:46	51.64	13.09
	ehu.es / referral	141	4.11	0:03:21	51.77	46.10
	de.wikipedia.org / referral	109	3.33	0:01:07	65.14	3.67
	uv.es / referral	94	6.30	0:03:42	45.74	15.96
	answers.com / referral	36	6.00	0:05:08	41.67	13.89
	plataformaurbana.cl / referral	33	4.27	0:03:45	42.42	15.15
	mail##1@yahoo.com / referral	29	5.62	0:13:59	37.93	93.10
	no.wikipedia.org / referral	22	1.41	0:00:46	90.91	4.55
Search engines	Google	3.044	5.74	0:04:07	44.28	25.85
	Yahoo	80	7.21	0:06:21	41.25	43.75
Top 15 keywords by traffic	All keywords	3.212	5.75	0:04:07	44.36	26.21
	Bilbao	1.649	7.20	0:05:19	35.72	34.87
	Urban	917	5.31	0:03:58	48.42	19.74
	Regeneration	654	5.67	0:04:32	42.97	21.56
	Guggenheim	512	6.23	0:04:33	41.21	33.20
	Scholar	365	10.63	0:06:51	16.71	49.86
	Museum	348	5.74	0:04:23	41.95	34.77
	Cultural	321	4.90	0:03:08	57.01	17.13
	City	201	4.55	0:03:09	58.21	10.95
	Culture	180	6.07	0:04:33	48.33	22.22
	Brand	165	4.87	0:02:54	61.82	10.30
	Effect	138	5.18	0:04:28	38.41	36.23
	Plaza	121	5.45	0:03:13	44.63	45.45
	Image	119	4.23	0:02:04	57.14	21.01
	European	104	4.68	0:02:36	61.54	13.46
Tourism	100	4.63	0:03:05	49.00	10.00	
Design	99	3.55	0:02:27	57.58	10.10	

Source: Google Analytics for www.scholars-on-Bilbao.info.

bounce rate traffic.

To sum-up, the keywords 'scholar', 'Bilbao', 'museum', 'Guggenheim', direct entries and Google are responsible for driving quality traffic to the site <http://www.scholars-on-bilbao.info>, whereas the keywords 'regeneration' and 'urban' in search engines and the referrals en.wikipedia.org and nl.wikipedia.org tend to underperform (Table 3). This is an uncomplicated method of analysis available for micro-firms, which can be useful

as a preliminary-step to time series analysis (Plaza, 2011).

The Webmaster can quantify the relationships that underlie these graphs through very simple regression analysis, as can be seen in Tables 4, 5 and 6. Several regressions are undertaken. The Breusch-Godfrey Serial Correlation LM Test is used to check autocorrelation. The White Test is used to test heteroskedasticity, and the Jarque-Bera statistic to test normality of residuals. The

**Table 2.** Traffic sources for www.scholars-on-bilbao.info ranked according to traffic (average values from 4 February 2007 to 1 May 2010).

S/N	Source	Visits	Pages per visit	Average time on site	Bounce rate (%)	Return visits rate (%)
1	Referring sites	3.542	5.79	0:04:00	40.74	40.74
2	Search engines	3.212	5.75	0:04:07	44.36	26.21
3	Google	3.044	5.74	0:04:07	44.28	25.85
4	en.wikipedia.org / referral	1.985	6.52	0:04:46	32.14	19.80
5	Bilbao / keyword	1.649	7.20	0:05:19	35.72	34.87
6	Direct Traffic	1.568	7.47	0:05:30	36.29	30.42
7	Urban / keyword	917	5.31	0:03:58	48.42	19.74
8	Regeneration / keyword	654	5.67	0:04:32	42.97	21.56
9	Guggenheim / keyword	512	6.23	0:04:33	41.21	33.20
10	nl.wikipedia.org / referral	411	3.38	0:00:54	58.39	5.60
11	Scholar / keyword	365	10.63	0:06:51	16.71	49.86
12	Museum / keyword	348	5.74	0:04:23	41.95	34.77
13	Cultural / keyword	321	4.90	0:03:08	57.01	17.13
14	es.wikipedia.org / referral	275	5.04	0:02:46	51.64	13.09
15	City / keyword	201	4.55	0:03:09	58.21	10.95
16	Culture	180	6.07	0:04:33	48.33	22.22
17	Brand	165	4.87	0:02:54	61.82	10.30
18	ehu.es / referral	141	4.11	0:03:21	51.77	46.10
19	Effect	138	5.18	0:04:28	38.41	36.23
20	Plaza	121	5.45	0:03:13	44.63	45.45
21	Image	119	4.23	0:02:04	57.14	21.01
22	de.wikipedia.org / referral	109	3.33	0:01:07	65.14	3.67
23	European	104	4.68	0:02:36	61.54	13.46
24	Tourism	100	4.63	0:03:05	49.00	10.00
25	Design	99	3.55	0:02:27	57.58	10.10
26	uv.es / referral	94	6.30	0:03:42	45.74	15.96
27	Yahoo	80	7.21	0:06:21	41.25	43.75
28	answers.com / referral	36	6.00	0:05:08	41.67	13.89
29	plataformaurbana.cl / referral	33	4.27	0:03:45	42.42	15.15
30	mail##1@yahoo.com / referral	29	5.62	0:13:59	37.93	93.10
31	no.wikipedia.org / referral	22	1.41	0:00:46	90.91	4.55

Source: Google Analytics for www.scholars-on-Bilbao.info.

presence of outliers is corrected through the use of dummies. The regressions are well-adjusted. The fitted estimations are shown in Tables 4 to 6.

According to the reading of the results in Table 4, it is clear that, for this particular website, return behaviour increases visit duration. A 1% increase in the return rate leads to a 0.03 increase in the number of pages viewed per visit. Furthermore, according to the intercept Dummy variables, the keyword 'scholar' over-performs in terms of visit depth. In other words, the keyword 'scholar' is an effective traffic driver.

A 1% increase in the bounce rate leads to a 0.09 decrease in the number of pages viewed per visit (Table 5). The negative relationship between visit duration and bounce rate (error visits) makes sense. The keyword 'scholar' over-performs in terms of visit depth, and the in-

link [www.plataformaurbana.cl](http://www.plataformaurbana.cl) underperforms. Finally a 1% increase in the bounce rate leads to a 0.68% decrease in the return rate (Table 6). Furthermore, according to the intercept Dummy variables, the referral from the e-mail [mail##1@yahoo.com](mailto:mail##1@yahoo.com) performs above average, showing a higher than average return rate. To summarize, the lower the bounce rate, the better the website's performance. Generally speaking, traffic sources with a high bounce rate indicate that the Webmaster has failed to meet his/her expectations.

## GOOGLE ADWORDS KEYWORD TOOL

These results call for an analysis of which keywords might perform better, and why. Google Analytics have

**Table 3.** Traffic sources for www.scholars-on-bilbao.info sorted according to return rate (average values from 4 February 2007 to 1 May 2010).

S/N	Traffic source	Visits	Pages per visit	Average time on site	Bounce rate (%)	Return visits rate (%)
1	mail##1@yahoo.com / referral	29	5.62	0:13:59	37.93	93.10
2	Scholar / keyword	365	10.63	0:06:51	16.71	49.86
3	ehu.es / referral	141	4.11	0:03:21	51.77	46.10
4	Plaza	121	5.45	0:03:13	44.63	45.45
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26	de.wikipedia.org / referral	109	3.33	0:01:07	65.14	3.67

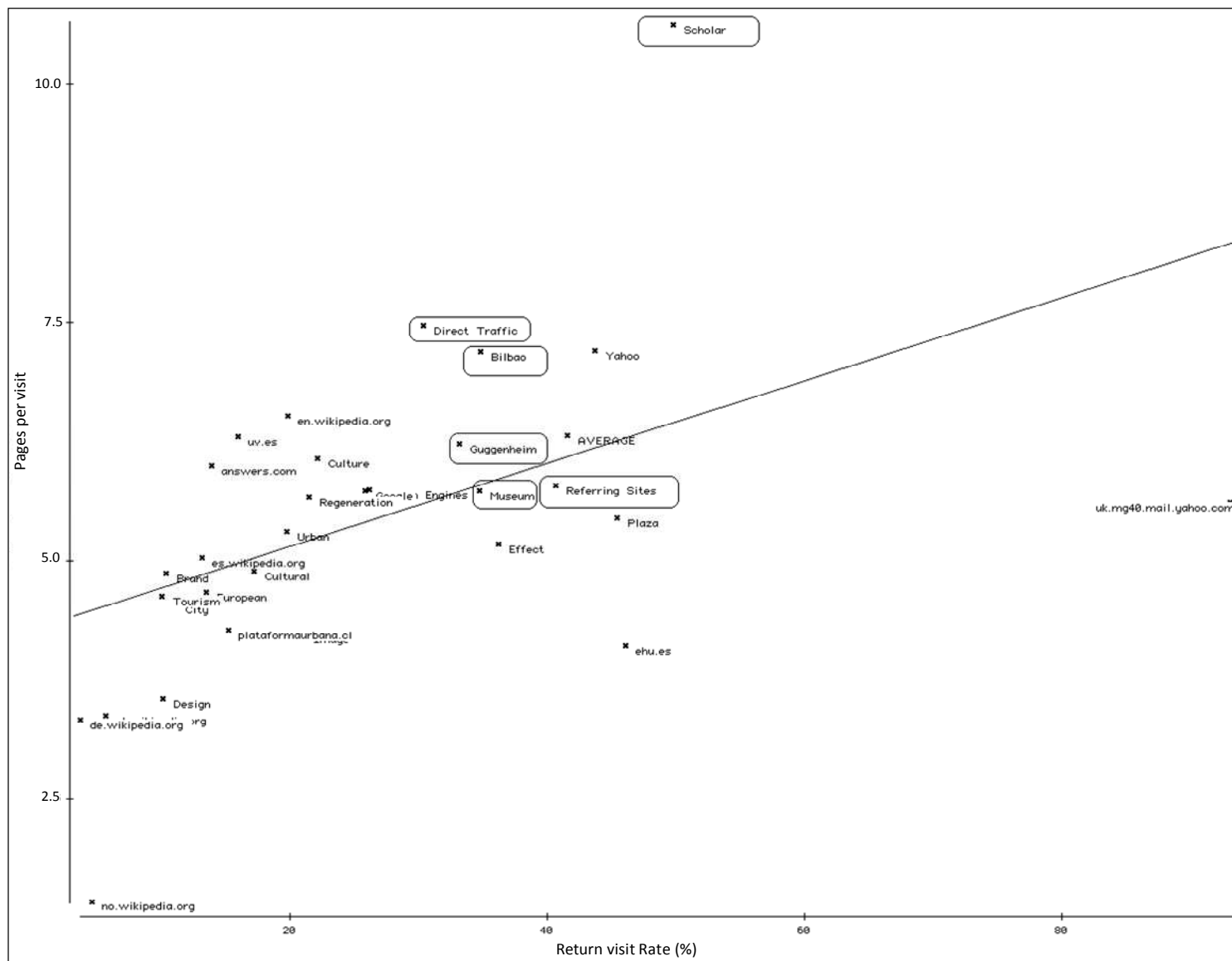
Source: Google Analytics for www.scholars-on-Bilbao.info.

analysed the keywords that drive traffic to the site <http://www.scholars-on-bilbao.info>, but are these search terms the most effective keywords in connection to this particular URL? Often internet site visitors do not use the same search terms used by the Webmaster. To this end it is important to talk to clients, employees, sales staff or potential customers to determine which words are most frequently used when clients seek out your products and services. Several keyword-search tools such as the free Google AdWords keyword tool and the SEO book keyword suggestion tool are available to help choose the best terms for SEO. The Google AdWords keyword tool helps the Webmaster estimate how frequently keywords are searched globally, in order to help marketing managers choose keywords for Google pay-per-click

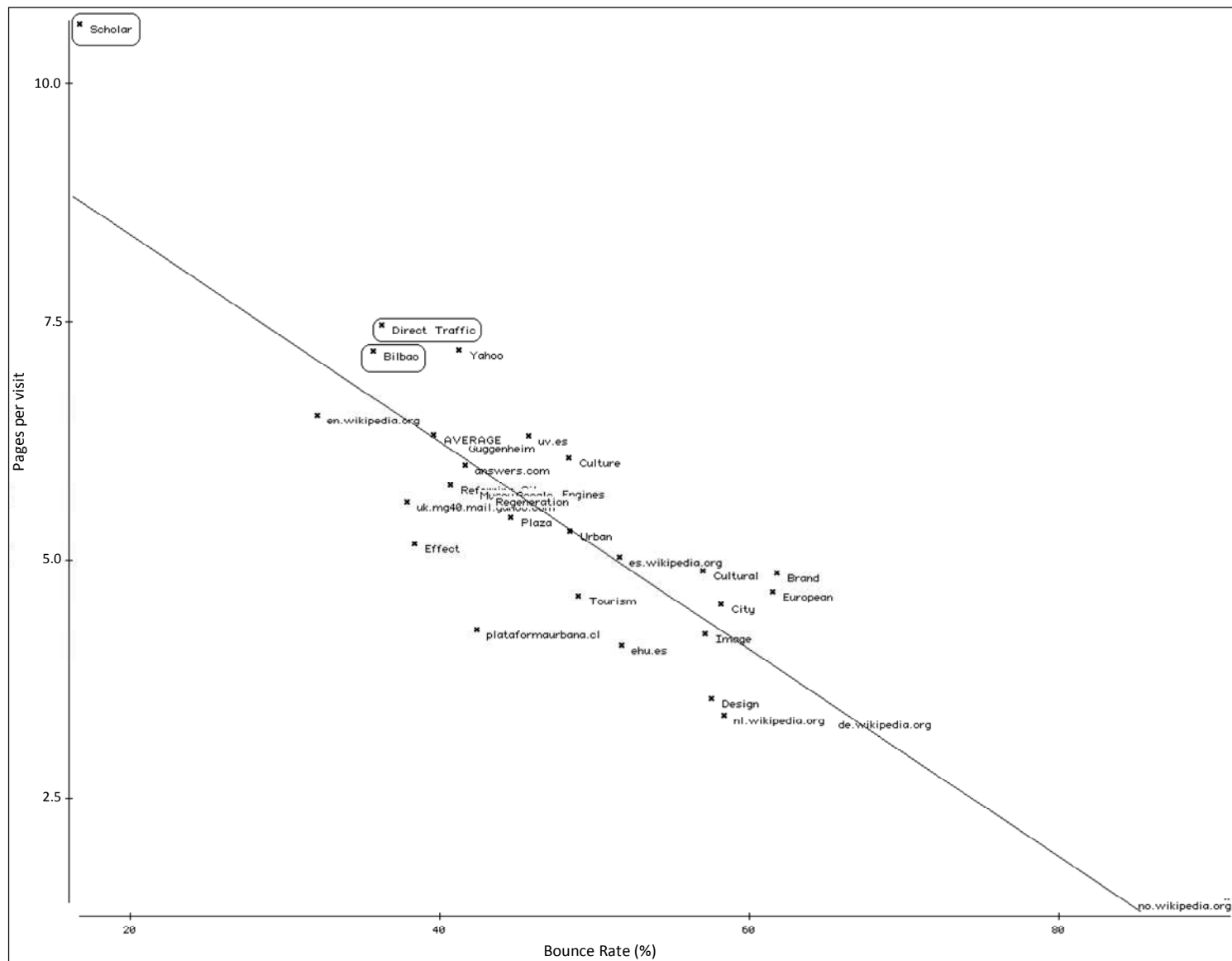
(PPC) advertisements; but it is also useful for organic keyword research. Picking appropriate keywords can contribute to effective organic (non-paid) search engine results. But, do our Google Analytics optimised keywords contribute to effective organic search engine results? To answer this question, the Google AdWords keyword tool is utilized (Figure 6).

The keywords suggested by the keyword tool for our specific URL are "Bilbao", "Guggenheim", "museum", "regeneration", "hotel", "urban" and "job". Therefore, the website seems to be optimised for the keywords "Bilbao", "Guggenheim", "museum", whereas this particular URL seems to underperform for "regeneration" and "urban". "Scholar" works as a long-tail keyword to the site <http://www.scholars-on-bilbao.info>. As far as "hotel" and

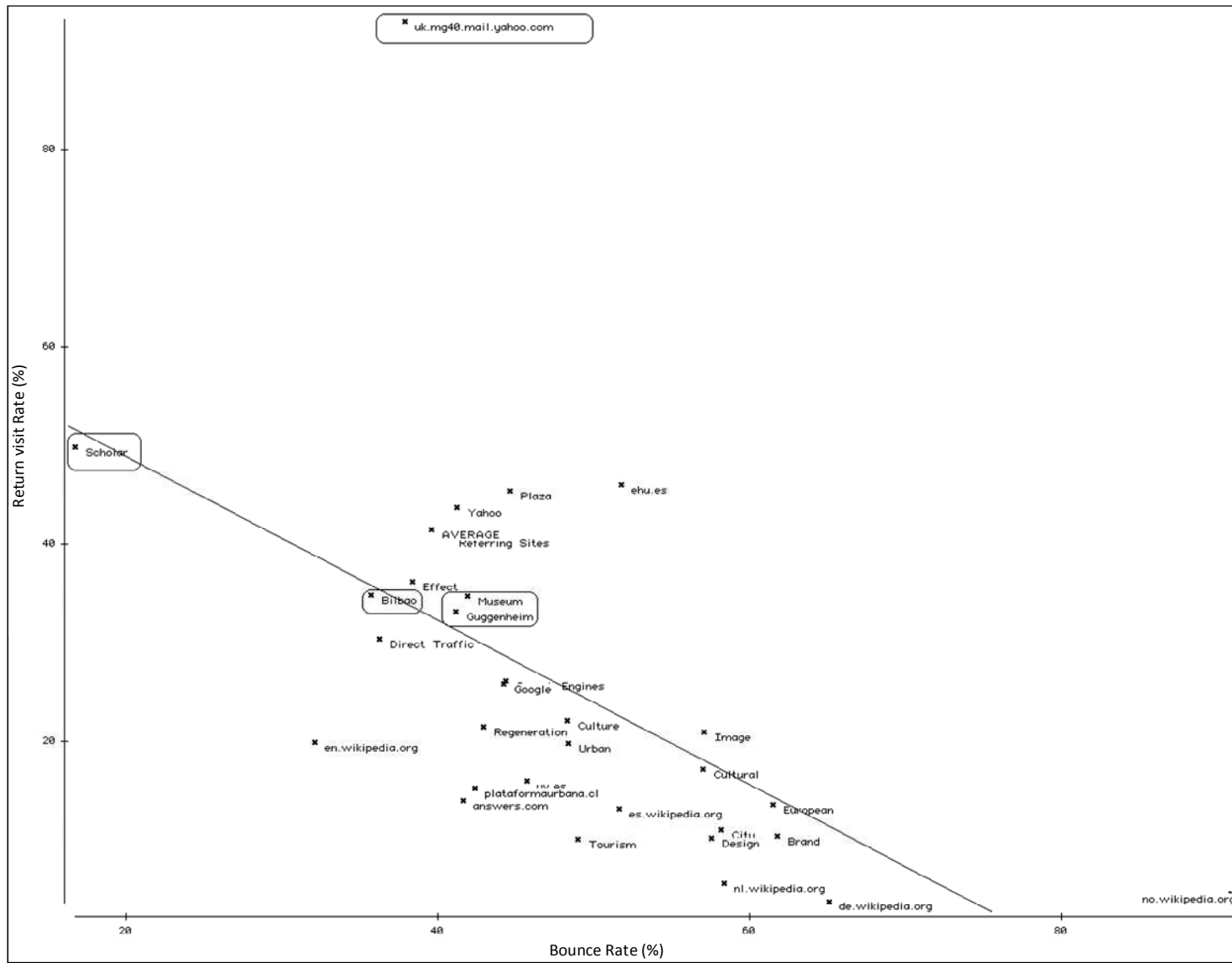




**Figure 3.** Traffic sources for www.scholars-on-bilbao.info: Rule #1. Return visits navigate deeper into the website and stay longer (average values from 4 February 2007 to 1 May 2010).



**Figure 4.** Traffic sources for www.scholars-on-Bilbao.info: Rule #2. The smaller the bounce rate, the greater the visit duration (average values from 4 February, 2007 to 1 May 2010).



**Figure 5.** Traffic sources for www.scholars-on-Bilbao.info: Rule #3. the greater the return visit rate, the smaller the bounce rate (average values from 4 February 2007 to 1 May 2010).

**Table 4.** Regression for pages per visit (average values from 4 February 2007 to 1 May 2010).

Variable	Coefficient	Standard error	t-Statistic	Probability
Constant	4.46	0.35	12.47	0.000
Return rate	0.03	0.01	2.66	0.012
Dummy 'scholar' (keyword)	4.57	1.21	3.78	0.000
N = 33				
R <sup>2</sup> = 0.48		F-statistic = 14.07		Prob(F-statistic) = 0.00
Breusch-Godfrey serial correlation LM test: F-statistic 2.37				Probability 0.13
White heteroskedasticity test: F-statistic 1.17				Probability 0.33
Jaque-Bera 2.68				Probability 0.26

**Table 5.** Regression for pages per visit (average values from 4 February 2007 to 1 May 2010).

Variable	Coefficient	Standard error	t-Statistic	Probability
Constant	9.99	0.47	21.15	0.000
Bounce rate	-0.09	0.009	-10.24	0.000
Dummy plataformaurbana.cl (in-link)	-1.62	0.61	-2.64	0.012
Dummy 'scholar' (keyword)	2.25	0.68	3.30	0.002
N = 33				
R <sup>2</sup> = 0.86		F-statistic = 61.75		Prob(F-statistic) = 0.00
Breusch-Godfrey serial correlation LM Test: F-statistic 0.01				Probability 0.98
White heteroskedasticity test: F-statistic 0.37				Probability 0.82
Jaque-Bera 0.27				Probability 0.87

**Table 6.** Regression for return rate (average values from 4 February 2007 to 1 May 2010).

Variable	Coefficient	Standard error	t-Statistic	Probability
Constant	56.29	6.86	8.20	0.000
Bounce rate	-0.68	0.13	-4.96	0.000
Dummy mail##1@yahoo.com	62.92	10.04	6.26	0.000
N = 33				
R <sup>2</sup> = 0.71		F-statistic = 36.92		Prob(F-statistic) = 0.00
Breusch-Godfrey serial correlation LM Test: F-statistic 0.96				Probability 0.39
White heteroskedasticity test: F-statistic 0.14				Probability 0.93
Jaque-Bera 3.15				Probability 0.20

"job" are concerned, it would seem that these do not belong to this URL's niche and the categories within it.

## CONCLUSIONS

The launch of free web analytics tools by search engines such as Google Analytics and Yahoo Web Analytics have the potential to become key marketing tools for small businesses, and even for large companies. In this paper

a method of analysing Google Analytics has been tested that allows uncomplicated, reliable and repeatable research even for small players with limited resources. What are the most effective traffic sources for our particular internet site? The traffic sources that perform an efficient mode are those (1) which drive a high traffic volume; (2) which have the highest return rate; (3) which have the largest visit length and (4) which have the lowest bounce rate. To sum-up, the results obtained here with cross-sectional information are consistent with those

Figure 6. Google AdWords keywords tool, Source: Google keyword tool.

results obtained by Plaza (2011) through time series analysis. The great advantage of these rules is that they can be utilized with simple cross-sectional information provided by Google Analytics, thereby making them extremely useful for micro-firms, although a statistically robust analysis of Web Analytics calls for a more exhaustive study of the time series for different traffic sources (Plaza, 2011). The importance of this study is not this particular website, but the methodology tested to arrive at these results.

The agenda for future studies calls for repeating the tests with different websites, to define more precisely the effectiveness of different traffic sources, and to compare these results with other case studies. With these basic tips, small players can analyse the Google Analytics data more reliably and fine-tune their site, which will hopefully result in improved Google search engine rankings, increased website visibility, higher conversion rates and consequently bigger sales.

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