



# Search Engine Optimisation Techniques

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*SEO and becoming a more useful website*

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## **Intro**

This document gives an overview of some important Search Engine Optimisation (SEO) techniques and other factors in this field of web design. While SEO is focused on ranking well in all internet search engines this document only discusses improving position and ranking in Google as it is the main player in search with about 85% market share worldwide. A high ranking in Google also generally indicates a strong ranking in other search engines.

SEO is the practise of changing a website to optimise and format the content with the intention of getting more traffic from search engines. Search engines return a list of the most relevant websites for every search. Most users click into one of the top few websites returned and therefore getting to the top of this list is a very important factor for getting traffic to a website.

## **Play the game**

Search engines, like Google, are based on an ever changing and complex algorithm with hundreds of differing inputs with unknown weightings. It's next to impossible to trick a search engine into thinking your website is better, more useful and more important than it is. There are thousands of Google employees working to ensure that every search done returns the best possible result. Google encourage people to produce good content. The best way to get to the top of a search engine is to provide the best information in the best possible format. Google's complex search algorithm can tell if your website is useful.

## **SERP, SEO, Page Rank, Indexing & other funny words**

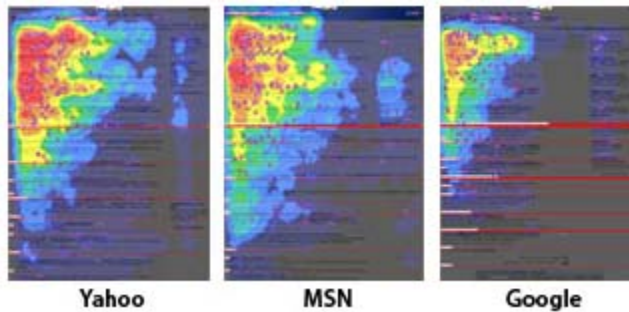
Optimising a website using the techniques listed below will improve traffic and increase both the Search Engine Results Page (SERP) rank and also the Google PageRank. The Google PageRank is a gauge of the importance of a website as indicated by Google. Every page on the Internet has a PageRank from 0-10. This PageRank number feeds into the overall SERP Rank. The SERP is the actual results page returned by the search engine (most people will be familiar with google results page) and our goal is to be placed as high as possible here when people do searches.

I will try to provide some of the core SEO guidelines and hold back on developing an exhaustive list of SEO techniques for a specific type of website. It is worth noting however that the techniques listed here are generally the most important and can have the biggest impact on improving search position for any website.

Optimisation of a website will not lead to an immediate increase in traffic. Google is constantly scouring the internet and indexing and then re-indexes pages again and again. When Google sees a change to a website or a webpage it will tentatively begin to give more importance to that page if it thinks there is justification. This process is slow but also very important if Google want to always return good results to people searching.

## The importance of being optimised

Position in Google is very important, for example, a #1 spot can yield over 8 times the traffic of being in #5 on a search results page. Studies have shown that users generally scour the first few results and go for one of these links rather than scroll through the results page. The eye-tracking heat map below illustrates where users are looking when they retrieve search results on three different search engines.



A “golden triangle” of intense eye scanning shows where the most activity is on a results page and being outside this golden triangle effectively means that you won’t get many hits from the search result.

A typical searcher will usually scan the top 4 results over a time period of about 7 seconds and then click

the link that suits them best.

The importance of ranking well in Google can not be over stated and there are many expert studies available to show how users interact with search engines and how a few places in a Search Engine Results Page (SERP) can make a big difference.

## Optimisation of URLs

Optimised URLs will give a short description of that page’s content.

e.g. [http://www.rottentomatoes.com/m/harry\\_potter\\_and\\_the\\_goblet\\_of\\_fire/](http://www.rottentomatoes.com/m/harry_potter_and_the_goblet_of_fire/)

URLs should describe the content of the page that they point to. Search engines treat the URL as a type of page title. The URL also contains keywords. The URL should be consistent with the content. For ease of reading, copying & pasting and also for use in many other environments from print to conversations over the phone the URL should be as short as possible.

All URLs should be static and should be human readable. Hyphens to separate words and no "&", "?" or "=" characters in the address.

There is a discussion if URLs should append ".html" to the end or not. Experience would say that this is not an influence on the page ranking and therefore to improve readability, length of URL etc. it can be good not to append ".html" to the end of the page.

## Clean & Canonical URLs

Clean and standardised URLs across the website have a positive impact on users and SEO. URLs should be informative and every webpage should have only 1 URL. Multiple URLs to the same page dilutes the ability to rank higher.

When it comes to badly titled URLs then something like:

<http://www.yoursitehere.com/shop/home.html> is a common type of example. The word **home** has no meaning in this context. The page should simply be <http://www.yoursitehere.com/shop/>

Another example could be:

<http://www.yoursitehere.com/info.html>

It is better to have a URL that gives context to the **info** word. We're trying to give information about our business but a search engine doesn't know this unless we tell it such. So an improved URL could be something like:

<http://www.yoursitehere.com/information-about-mybusinessname.html>

URLs can also give structure to a website and therefore it is good to organise pages and information with this in mind.

Structure your information under descriptive sections like so:

<http://www.yoursitehere.com/shop/>

<http://www.yoursitehere.com/events/>

<http://www.yoursitehere.com/blog/>

<http://www.yoursitehere.com/downloads/>

And under each section you can then have individual pages or even further sub sections. This gives a structure to your website that is easily understood by humans.

However, it is worth noting that the deeper you go within any structure the less importance is placed on that level. For example,

<http://www.yoursitehere.com/events/gigs/tours/2011/July/ireland/dublin/dates.html>

This is descriptive and understandable but if this is an important webpage then it will not be seen as such from a search engine perspective. A better URL could be

<http://www.yoursitehere.com/events/gigs-2011/ireland-dublin-dates.html>

This gives the same description but has less structural levels and therefore is more important.

It is also worth noting that it is best if all URLs are in lower case.

## **The use of keywords in SEO**

Keywords are the words that users type into a search engine. In its simplest form users will find websites that have keywords that best match the keywords they type into Google.

Keywords define the essence of a website. For example, Diageo is one of the worlds leading drinks companies with massive brands such as Guinness, Baileys and so on. I know this because I can deduce this from what is said on their website. Google unfortunately don't have time to human read the **about** page along with all the other companies out there.

Instead, Google will periodically index the website and isolate the keywords which diageo.com gives prominence to. Google then has a look around other websites that link to diageo.com and see what keywords are being used to discuss the company and also who is linking to diageo.com. Every website has their own "essence" and if forums about alcohol and drinking are discussing diageo.com then Google begins to see a pattern of keywords that they decide to attribute to diageo.com so that when people search Google with these keywords the diageo site appears in the results page.

The algorithm that defines the position on a search results page is complex and only a certain amount the variables that go into it are within the realm of our control. We can have an influence on everything else though but having a well structured, organised, optimised and useful website that people will use is a major part to it all.

### **What to do?**

Firstly, identify a list of keywords and phrases that best describe the essence of your business and website. This list will be referred to constantly when it comes to optimising content.

I recommend about 5-8 critical (head) keywords/phrases, about 20 or so major (Torso) keywords/phrases and another 50 niche (long-tail) phrases/words.

Head keywords are the most competitive keywords that best describe your business. For example Diageo would be "Guinness", "alcohol", "Whiskey" etc. The torso keywords are a little less competitive and more specific such as "Guinness brand", "Diageo financial results" etc and then the long tail keywords are very specific such as "worlds leading drinks business" and so on.

Google provide a very useful tool to find keywords for your website:

<https://adwords.google.com/select/KeywordToolExternal>

Spend some time creating your keyword list. These will best describe what the business does. It is your hope that users will find your website when they type these keywords into Google.

### **Where to use these keywords/phrases?**

Take for example the keyphrase "insurance". This is a very competitive keyword and in Ireland alone around 650,000 searches are done each month. So how do we get to the top of the search pile? First and foremost our website has to be relevant and

about insurance. Once this is the case we can optimise the page like so. (You may need to be slightly familiar with HTML to understand some of the following)

- Use the keyword in the URL of the page – e.g.  
[www.yoursitehere.com/insurance/how-to-purchase/](http://www.yoursitehere.com/insurance/how-to-purchase/)
- Use the Keyword in the **Title** of the page (this is the descriptive piece of information that appears at the top of the browser). URL & Title should share keywords
- Use the Keywords in description and keywords tag of the page, again same keywords with the URL/Title
- Use the keywords within the text of the page. There should be one and only one <h1></h1> tag on a webpage and this should include the keywords.
- There should be multiple <h2></h2> tags with further keywords
- The positioning of the keywords and emphasis is important. It is also seriously important to have relevant content that people will read and use.
- Use the keywords in **titles** of links within the site and also within **alt** tags of any images on the page.
- Do not over use keywords (called keyword stuffing), Google will punish your site
- Links within the pages or incoming links to your page should include keywords. Never use a **Click here** text for links. It's best to use a **insurance information** link for example.
- Don't have try to have lots of keywords on a single page. A page should be optimised for the topic it discusses and as a result description, title, URL, keywords tags should all be fairly short and contain the same main keywords.

These are the basics for the optimisation of a page for a keywords or key phrases. As you develop different content throughout a website all the keywords and key phrases that you gathered previously should be used. When Google then looks at this website it understands the topics and keywords that are being used. It will then try to link searches to the topics.

### **Keywords within the webpage content**

When considering the content of a page then it is important to understand how Google looks at what is on the screen. You might decide to have the key phrase "*irish insurance*" at the start, beginning and end of every sentence within the copy of the page and therefore you'll think that you should rank number 1 for this key phrase. Wrong move! Google will punish a website if they spot this behaviour and it is very easy to spot. Having good, useful content eliminates the need to worry about tricking Google.

Overstating a key phrase on a webpage is called keyword stuffing and Google does not like it because it is the practice of rogue websites.

The keyword density of a webpage is the amount of times that it appears on a page compared to the total amount of words on the page. I would recommend a density below 5%. 2-4% is a good keyword density for a page and all pages should be optimised to be within this.

There are many tools available to check keyword density on websites and the results are often very surprising.

Optimising the text on a webpage is actually not hard once you know the keywords you are targeting; it just takes some time and commitment.

### **Tagging keywords**

It is important to also have the keywords tagged correctly when relevant. Using the HTML tags for Headers is important (<h1>Getting Insurance</h1> or <h3>More information about Insurance</h3>) and also putting words in <b>bold tags</b> and with the main text within <P>paragraph tags</p>. Important keywords should also appear more near the top of the text than the bottom. Keywords should also be within the title of links and alt tags of images as mentioned previously.

## **Optimisation of website code**

A website is viewed in a browser which can, amongst other things, render HTML tags, Style Sheets (CSS) and run JavaScript. Due to the fact that there are many different web browsers (IE, Firefox, Chrome, Opera, Safari etc.) and many different viewing platforms (Windows, Linux, Mac, smartphones etc.) it is important for SEO that the code of a website is first off valid and can therefore be displayed correctly on the various browsers & platforms.

Google gives good marks to those sites that adhere to standards. It is important that a website has HTML, CSS & JavaScript that is valid. The World Wide Web Consortium (W3C) have validators which can be used to verify the code of a website:

<http://validator.w3.org/>

## **Speed**

Google recently announced that the performance/speed of a website now has a bigger impact on how high a page is ranked in its search algorithm. Heavy websites that take a long time to load will be marked down. It is even more important, therefore, to have optimised code. Most browsers can "fix" errors in code (for example closing an open tag i.e. "<head>" but no matching "</head>") but this slows down the load time ever so slightly. Optimising the code of a site speeds it up.

Images that are optimised for viewing on the internet and also the use of image sprites in collaboration with CSS help increase download times.

JavaScript can also have an impact when it comes to speed and a website can see big increases in speed by improving the quality of JavaScript. The positioning of that code at the bottom of a page rather than at the top also means that JavaScript calls don't slow down the loading of a page. Tools such as ySlow (<http://developer.yahoo.com/yslow/>) help to improve a website's speed. The speed of a website will gain more importance over the next few years with the shift to lightweight hardware and OS such as iPhone or Android OS. There are many other technical changes that can be made to improve the speed of a website that can be looked at again but for now it is important to start considering website speed as a factor.

Google appreciates these changes and so do users who will be less likely to bounce if the page loads almost instantly.

## **Minify**

Minifying all code is also a great way to reduce size of a webpage and vastly increase a websites speed. In the case of JavaScript this works by considering a variable name called "myVar" to be shortened to "a". This means that everywhere that the term "myVar" appears in the JavaScript code it is now "a" and this could be the case for all the JavaScript, shorting the physical size of the javascript file. It reduces the size of the code downloaded by the user.

Compressing the css file on a website is also good as it removes duplication and whitespace and comments are stripped out.

These types of savings are small but collectively the experience for the user improves greatly and Google gives the marks for that. If a business could make a 25% or more saving in money terms then you would see that as a massive advantage. It is no different online, an advantage is an advantage.



For an example of very optimised code go to [google.com](http://google.com) and view the source (view>source). All css, html, javascript has been reduced to improve the site download speed.

## **Browsers**

In the context of browsers it is important that a website is cross browser compatible. IE6 tends to be the least workable of all browsers but it now has only <5% market share in Ireland and Europe. It is reducing each month as more people move to newer versions of IE and also Firefox & Chrome browser. W3Schools give an insightful breakdown of their users in browser terms:

[http://www.w3schools.com/browsers/browsers\\_stats.asp](http://www.w3schools.com/browsers/browsers_stats.asp)

Future development should concentrate on development for Firefox, Chrome, IE8+ and Safari. It should be tested on all browsers but functionality should not be dropped to accommodate browsers such as IE6. Support should be limited but not dropped for IE6 going forward.

A mobile version of a site is also a good idea if resources are permitting. This would be lighter and faster. It is more concentrated on text with smaller images so that it can load quickly and be easier to navigate for the user on smaller screens. A good example of a mobile site is the BBC: <http://www.bbc.co.uk/mobile/index.html>.

Certain people like to switch off CSS styling and JavaScript on their browsers so it is important that the design of any page considers graceful degradation. The numbers of people that do this are limited however but it is good practice for a number of reasons. It makes it accessible for those who have limited vision and use specialised page viewers/readers. Also, when indexing a site Google crawls a webpage in a similar manner to this so the order of links and text and so on is important in the context of SEO.

### **The importance of good quality content on a website**

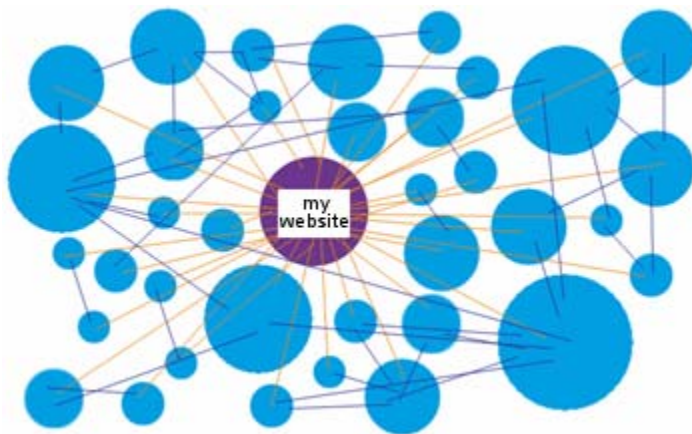
Google will always attempt to rank the best content at the top of its search results page. While SEO and all that goes with it are very important for Google to understand a website, it is the content that is the most important aspect.

The content aspect of SEO is user focused and not search engine focused. This ultimately means that there are no “tricks or tweaks” available to improve the content of a website for the sake of attracting more traffic. The spotlight is on having good content that people will find useful.

### **If content is not Search Engine focused then where does Google come in?**

Google is constantly trying to find the best way to report the best and most relevant information to those looking for it. In the “real world”, people generally heed the advice of those that they find interesting or whose opinions they rate.

Google see how conversations online mimic those of the real world and in doing so they place importance on the sites that people discuss often. There is great importance placed on inbound links to websites and equal importance on who is giving those links. Monitoring the flow of links, where the links are coming from and the general discussions based around those links Google can decide if the information in that link is important enough for them to return that link in a SERP when someone does a search around the topic covered within that link.



This image demonstrates sites of varying “importance” linking to each other and also to your site. Many links from many websites of credibility and importance such as News sites (bbc, rte, NYtimes), blog/microblogs (blogspot, wordpress, twitter), social networks (facebook, linkedIn) and so on illustrate importance to Google. If others are discussing your site then so too will Google.

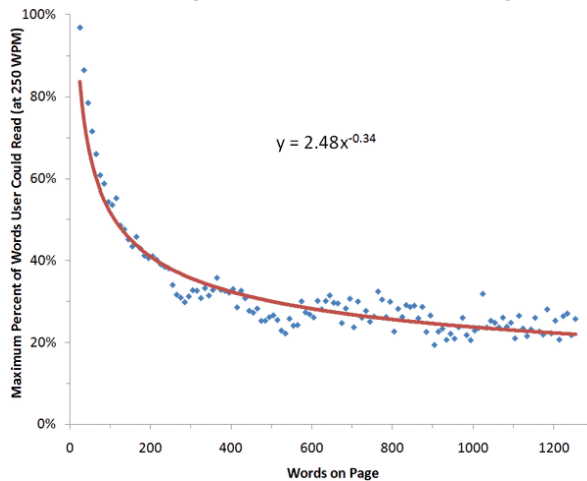
This idea, therefore, feeds into the concept of why good content is important on a website. This is not to be confused with viral content which can be a great way to get hits but not a long term approach to increase ranking position for key business areas.

If people find content useful then they will blog about it, they will twitter about it and they will discuss it on forums, forward it in emails, mention it on articles and use it as a reference in a whole host of areas online.

*But wait, our content is VERY useful but rarely linked to by others online?*

Information is a collection of facts on screen but it is important to also understand how people use the internet before throwing information at them willy-nilly.

In Jakob Nielsen's study on how users read webpages: **"Not quite the average: An empirical study of Web use"** he observed that from analysis of 45,237 actual (no bounces) page views *"On the average Web page, users have time to read at most 28% of the words during an average visit; 20% is more likely."*



The average user has the ability to read about 200 words per minute.

Nielsen's indicates that users were more sporadic in their reading as the number of words on the page increased.

This graph shows the maximum amount of words that users will read during an average visit to pages with different word counts.

On pages with only 111 words Nielsen shows that users read only half the information.

**Design for scanning, not reading** is the title of a chapter in Steve Krug's Web usability book titled "Don't make me think..". This is a very important observation about how users interact with webpages. Along with many other usability experts and other research it is clear that users act differently than most web designers expect, or more likely hope.

Web users are always in a hurry, they have limited attention spans, they are always guessing online (how often have you clicked the back button on your web browser?) and they never really weigh up options on a webpage (because on poorly designed websites there is no point – just click and see).

When it comes to a webpage's content it is imperative to the success of a site that the content satisfies the basic nature of a user.

Steve Krug's 3<sup>rd</sup> law of web usability is *"Get rid of half the words on each page and then get rid of half of what's left"*.

When it comes to other facts about content such as spelling and broken links then common sense is the obvious answer. The most important other factor to good content is to have fresh content regularly.

## Conclusion

There are plenty of ways to improve your ranking in Google. The above outlines just a few and gives a brief overview of the area of SEO. The important things to remember are that well formatted, well displayed and useful content is the best thing you can have. Everything else is about helping users find that content. SEO is a constant effort and its importance is understated. Applying what you learn and constantly understanding the latest trends is a slow task but eventually you will see the results as traffic to your website continually increases.