UNIT 1:-

SEARCH: REFLECTING CONSCIOUSNESS AND CONNECTING COMMERCE & SEARCH ENGINE BASICS

Definition of SEO
The Mission of Search Engines
The Market Share of Search Engines
The Human Goals of Searching
Determining Searcher Intent: A Challenge for Both Marketers and Search Engines
How People Search
How Search Engines Drive Commerce on the Web
Eye Tracking: How Users Scan Results Pages
Click Tracking: How Users Click on Results, Natural versus Paid
Conclusion
Understanding Search Engine Results
Algorithm-Based Ranking Systems: Crawling, Indexing, and Ranking
Determining Searcher Intent and Delivering Relevant, Fresh Content
Analyzing Ranking Factors
Using Advanced Search Techniques
Vertical Search Engines
Country-Specific Search Engines
Conclusion

UNIT -1

Ch-1 – the search Engines: Reflecting Consciousness & Connecting Commerce

Definition of SEO:

Search engine optimization (SEO) refers to techniques that help your website rank higher in organic (or –naturall) search results, thus making your website more visible to people who are looking for your product or service via search engines.

The Mission of Search Engines:

- Since web searchers are free to use any of the many available search engines on the Web to find what they are seeking, the burden is on the search engines to develop a relevant, fast, and fresh search experience.

- As a result, search engines invest a tremendous amount of time, energy, and capital in improving their relevance.
- Search engines generate revenue primarily through paid advertising.
- The great majority of this revenue comes from a pay-per-click (or cost-per-click) model, in which the advertisers pay only for users who click on their ads.

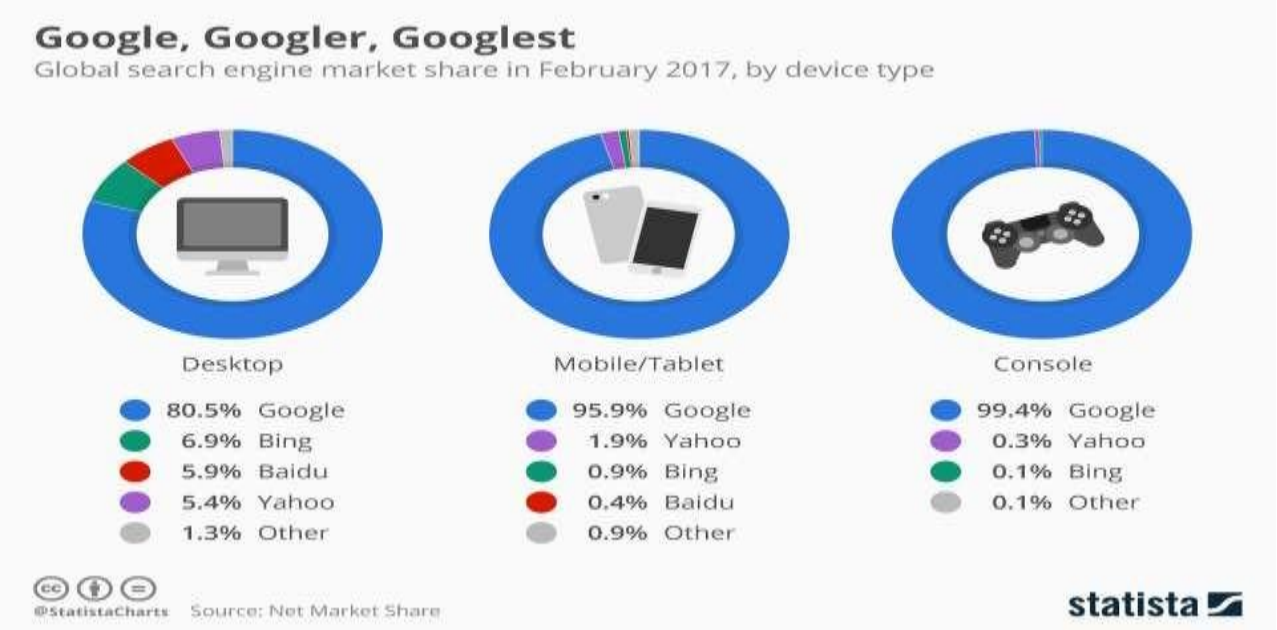
- Each major search engine employs a team of people who focus solely on finding and eliminating spam from their search results.

- The main Goal of Search Engine is to –satisfies the searcherll

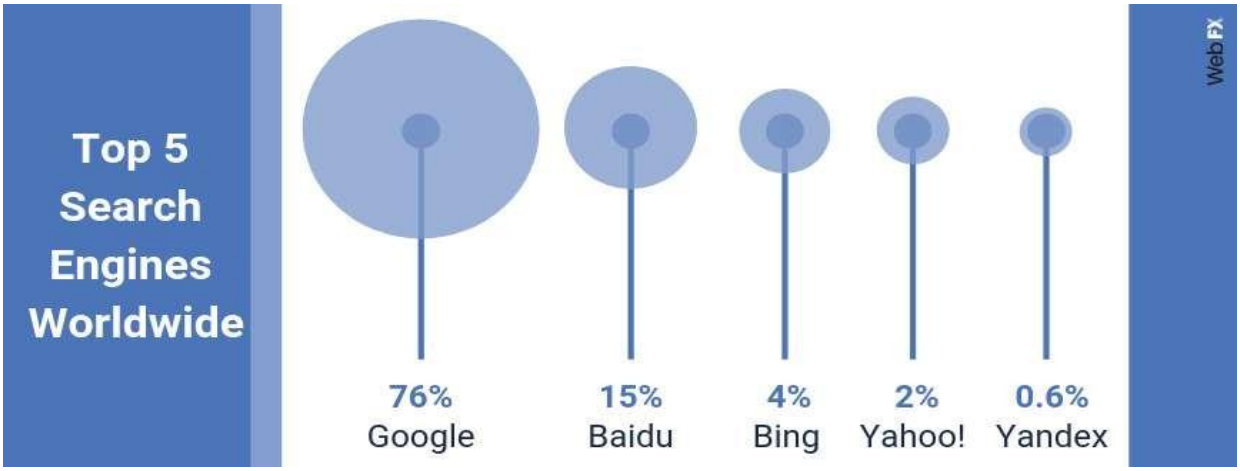
The Market Share of Search Engines.

Figure Below shows the US market share for search engines in July 2011, according to comScore. As you can see, Google is the dominant search engine on the Web in the United States.

Google market share review:



Search engine market share (APRIL 2019)



Get a breakdown of the top 10 search engines worldwide:

Search Engine	**Global Market Share**
1. Google	76%
2. Baidu	15%
3. Bing	4%
4. Yahoo!	2%
5. Yandex	0.6%
6. Ask	0.2%
7. DuckDuckGo	0.1%
8. Naver	0.1%
9. AOL	0.04%
10. Dog pile	0.03%

The Human Goals of Searching.

The basic goal of a human searcher is to obtain information relevant to an inquiry.
However, searcher inquiries can take many different forms.
One of the most important elements to building an online marketing strategy for a website around SEO and search rankings is developing a thorough understanding of the psychology of your target audience.

Most search processes comprise the following steps:

1. Experience the need for an answer, solution, or piece of information. For example, the user may be looking for a website (navigational query) to buy something (transactional query) or to learn something (informational query). We will discuss this in more detail in the following section.
2. Formulate that need in a string of words and phrases (the query). Most people formulate their queries in one to three words. Table 1-1 gives a more detailed look at the percentages of searches per query length.
3. Execute the query, check the results, see whether you got what you wanted, and if not, and try a refined query.

- **Who Searches and What Do They Search For?**

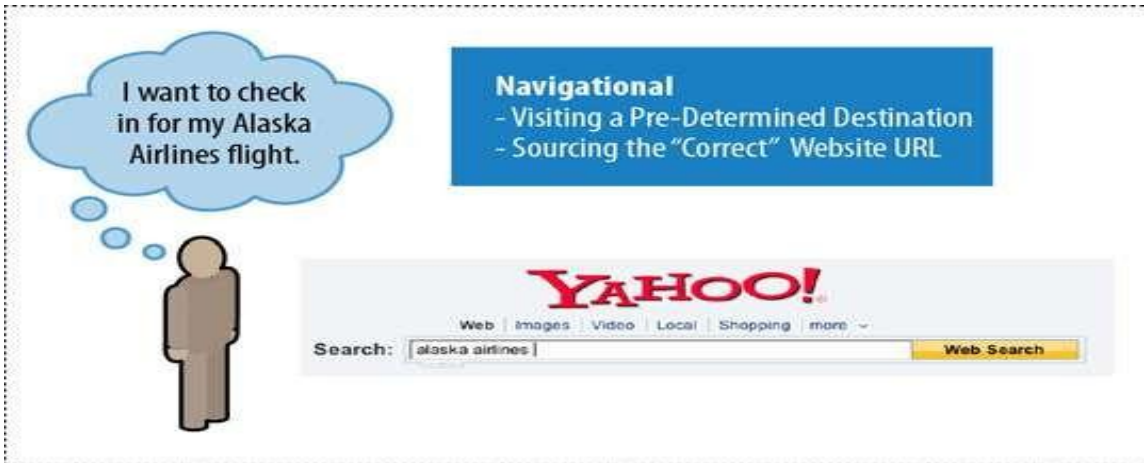
ComScore reported that the number of search queries performed worldwide on the Web was approximately 158 billion across all engines in August 2011.
• Google is the dominant player in most world markets.
• Users tend to use short search phrases, but these are gradually getting longer.
• Search covers all types of markets.

- **Determining Searcher Intent: A Challenge for Both Marketers And Search Engines.**

- Good marketers are empathetic. Smart SEO practitioners and the search engines have a common goal of providing searchers with results that are relevant to their queries.
- Therefore, a crucial element to building an online marketing strategy around SEO and search rankings understands your audience.
- Once you grasp how your target market searches for your service, product, or resource, you can more effectively reach and keep those users.
- Search engine marketers need to be aware that search engines are tools—resources driven by intent.

- **What follows is an examination of the different types of queries, their categories, characteristics, and processes.**

- **Navigational Queries:** Navigational searches are performed with the intent of surfing directly to a specific website. In some cases, the user may not know the exact URL.



- **Informational Queries**

Informational searches involve a huge range of queries—for example, local weather, maps and directions, details on the latest Hollywood awards ceremony, or just checking how long that trip to Mars really takes.

- Informational searches are primarily non-transaction-oriented

- **Transactional Queries**

Transactional searches don't necessarily involve a credit card or wire transfer. Signing up for a free trial account at CooksIllustrated.com , creating a Gmail account, paying a parking ticket or finding the best local Mexican restaurant for dinner tonight are all transactional queries.

- Note: more than 80% of searches are informational in nature, and only about 10% of searches are navigational or transactional.
- The researchers went further and developed an algorithm to automatically classify searches by query type. When they tested the algorithm, they found that it was able to correctly classify queries 74% of the time.

➢ **Adaptive Search.**

- The search engines also look at sequences of search queries to determine intent.
- This was confirmed in Eric Enge's interview with Jack Menzel, Product Management Director for Google Search
- Keeping track of users' previous search queries and taking them into account when determining which results to return for a new query—known as adaptive search.
- Adaptive search is intended to help the search engines get a better sense of a user's intent.

➢ **How People Search.**

- Search engines invest significant resources into understanding how people use search, enabling them to produce better (i.e., faster, fresher, and more relevant) search engine results.
- For website publishers, the information regarding how people use search can be used to help improve the usability of a site as well as search engine compatibility.
- Data from comScore provides some great insight into the types of things that people tend to search for.
- Table 1-4 shows a breakdown of many of the major categories that people's Internet searches fall into, based on comScore data for August 2011.
- Data from comScore provides some great insight into the types of things that people tend to.

➢ **How Search Engines Drive Commerce on the Web.**

- People make use of search engines for a wide variety of purposes, with some of the most popular being to research, locate, and buy products.
- Ecommerce sales reported by the US Census Bureau were a healthy $47.5 billion
- It is important to note that search and offline behavior have a heavy degree of interaction, with search playing a growing role in driving offline sales.
- A Google study from 2011 showed that each $1 of online ad spend drives anywhere from $4 to $15 in offline sales

- According to a March 2010 report from Forrester Research, over $155 billion worth of consumer goods were purchased online in the US in 2009. While that seems like a big number, the influence on offline sales was far greater.
- Local search is an increasingly important component of SEO, and one that we will explore in detail in next unit.

➢ **Eye Tracking: How Users Scan Results Pages.**

- This particular study perfectly illustrates how little attention is paid to results lower on the page versus those higher up, and how users' eyes are drawn to bold keywords, titles, and descriptions in the natural (—organicll) results versus the paid search listings, which receive comparatively little attention.

- This research study also showed that different physical positioning of on-screen search results resulted in different user eye-tracking patterns.

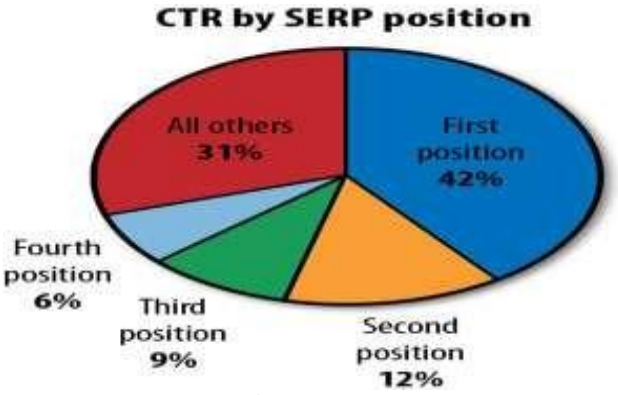
- When viewing a standard Google results page, users tended to create an –F-shapedll pattern with their eye movements, focusing first and longest on the upper-left corner of the screen, then moving down vertically through the first two or three results, across the page to the first paid page result, down another few vertical results, and then across again to the second paid result.
- The other search engines followed suit within a few months, and the industry now refers to this general concept as Blended Search.

➢ **Click Tracking: How Users Click on Results, Natural versus Paid.**

- By now, you should be convinced that you want to be on the top of the SERPs. It never hurts to be #1 in the natural search results.
- SEO is part of the broader topic of Search Engine Marketing (SEM), a term used to describe all marketing strategies for search. SEM entails both organic and paid search.
- With paid search, you can pay to list your website on a search engine so that your website shows up when someone types in a specific keyword or phrase.

- Organic and paid listings both appear on the search engine, but they are displayed in different locations on the page.

- So, why is it important for your business‟ website to be listed on search engines? On Google alone, there are over 694,000 searches conducted every second.i Think about that.
- Every second that your website is not indexed on Google, you are potentially missing out on hundreds, if not thousands of opportunities for someone to visit your website, read your content, and potentially buy your product or service.
- In addition, the first 10 results received 89.71% of all click-through traffic; the next 10 results (normally listed on the second page of results) received 4.37%, the third page 2.42%, and the fifth page 1.07%. All other pages of results received less than 1% of total search traffic clicks.



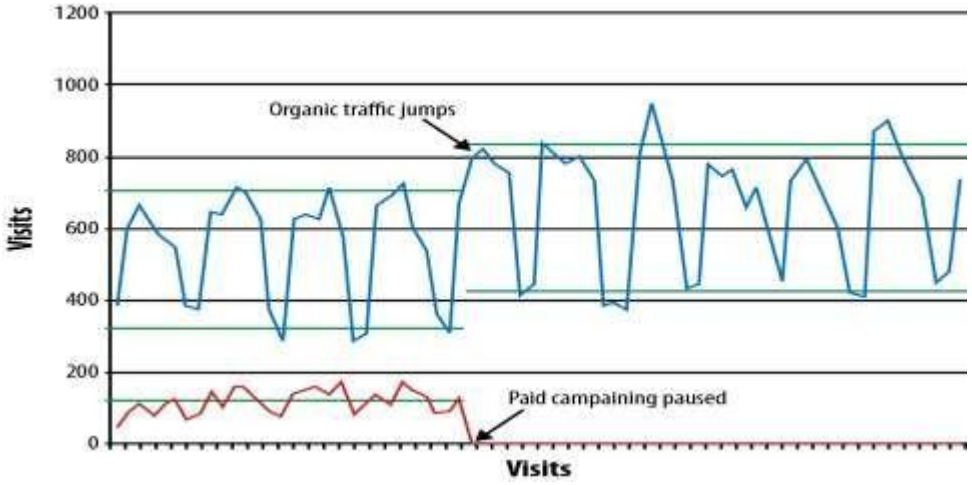
Here are some additional things to take away from the study:

• 85% of searchers click on natural results.

• The top four sponsored slots are equivalent in views to being ranked at 7–10 in natural search in terms of visibility and click-through.

• This means if you need to make a business case for natural search, assuming you can attain at least the #3 rank in natural search for the same keywords you bid on, natural search

- One can also expect that it will take time for searchers to fully understand what the Google+ Brand Page results are, and how they differ from the organic and paid results. Figure 1-15 shows an example of a Google result including Brand Pages.



Return on investment (ROI)

Ch – 2 Search Engine Basics

Understanding Search Engine Results.

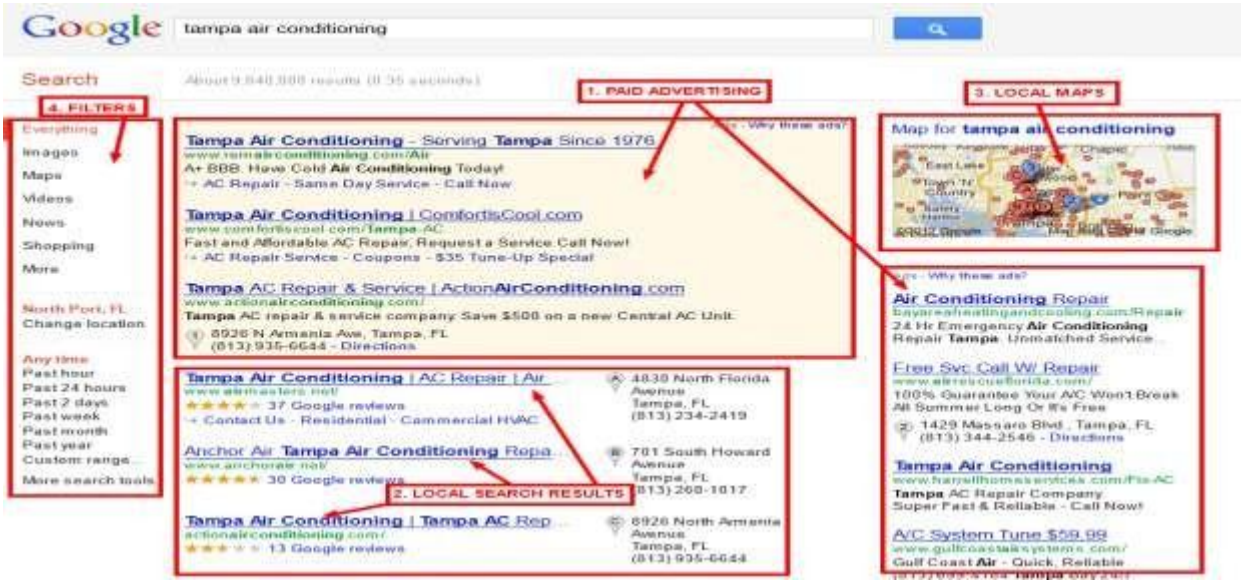
In the search marketing field, the pages the engines return to fulfill a query are referred to as search engine results pages (SERPs). Each engine returns results in a slightly different format and will include vertical search results (specific content targeted to a query based on certain triggers in the query, which we'll illustrate shortly).

Understanding the Layout of Search Results Pages.

Each unique section represents a snippet of information provided by the engines. Here are the definitions of what each piece is meant to provide:

The various sections outlined in the Google search results are as follows:

1. Horizontal navigation (see top left)
2. Search query box
3. Results information
4. PPC advertising
5. Vertical navigation
6. Query refinement suggestions
7. Natural/organic/algorithmic results



Vertical navigation

Each engine offers the option to search different verticals, such as images, news, video, or maps. Following these links will result in a query with a more limited index.

Horizontal navigation

The search engines also offer other types of navigation elements.

For example, in Figure 2-1 you can see that Google offers the option to limit the date range of the content returned in the search results.

Search query box

All of the engines show the query you've performed and allow you to edit that query or enter a new query from the search results page.

Next to the search query box, the engines also offer links to the advanced search page, the features of which we'll discuss later in the book.

Results information
This section provides a small amount of meta information about the results that you're viewing, including an estimate of the number of pages relevant to that particular query
PPC (a.k.a. paid search) advertising
Companies purchase text ads from either Google Ad Words or Microsoft ad Center. The results are ordered by a variety of factors, including relevance
Natural/organic/algorithmic results
These results are pulled from the search engines' primary indexes of the Web and ranked in order of relevance and popularity according to their complex algorithms.
Query refinement suggestions
Query refinements are offered by Google, Bing, and Yahoo!. The goal of these links is to let users search with a more specific and possibly more relevant query that will satisfy their intent.
In March 2009, Google enhanced the refinements by implementing Orion Technology, based on technology Google acquired in 2006. The goal of this enhancement is to provide a wider array of refinement choices.
Shopping search results
All three search engines do this as well. Shopping results incorporate offers from merchants into the results so that searchers that are looking to buy something can do so quite easily.

How Vertical Results Fit into the SERPs
These –standardǁ results, however, are certainly not all that the engines have to offer. For many types of queries, search engines show vertical results, or instant answers, and include more than just links to other sites to help answer a user's questions. These types of results present many additional challenges and opportunities for the SEO practitioner.
Figure below shows an example of these types of results. The query in Figure 2-4 brings back a business listing showing an address and the option to get directions to that address. This result attempts to provide the user with the answer he is seeking directly in the search results.

Figure shows another example. The Google search in Figure 2-5 for weather plus a city name returns a direct answer. Once again, the user may not even need to click on a website if all she wanted to know was the temperature.

FIGURE. Google search on an artist's name

Figure is an example of a search for a well-known painter. A Google search for Edward Hopper returns image results of some of his most memorable works

As you can see, the vast variety of vertical integration into search results means that for many popular queries, returning the standard set of 10 links to external pages is no longer the rule.

Engines are competing by attempting to provide more relevant results and more targeted responses to queries that they feel are best answered by vertical results, rather than web results.

Determining Searcher Intent and Delivering Relevant, Fresh Content

Analyzing Ranking Factors

Using Advanced Search Techniques

Vertical Search Engines

Country-Specific Search Engines

Conclusion

- **Algorithm-Based Ranking Systems:**
- **Crawling, Indexing, and Ranking Crawling -** is the process of fetching all the web pages linked to a web site. This task is performed by software, called a **crawler** or a **spider** (or Googlebot, as is the case with Google).

To offer the best possible results, search engines must attempt to discover all the public pages on the World Wide Web and then present the ones that best match up with the user's search query. The first step in this process is crawling the Web.

Indexing - is the process of creating index for all the fetched web pages and keeping them into a giant database from where it can later be retrieved. Essentially, the process of indexing is identifying the words and expressions that best describe the page and assigning the page to particular keywords.

Processing - When a search request comes, the search engine processes it. I.e. it compares the search string in the search request with the indexed pages in the database.

Calculating Relevancy - Since it is likely that more than one page contains the search string, so the search engine starts calculating the relevancy of each of the pages in its index to the search string.

Retrieving Results - The last step in search engines' activities is retrieving the best matched results. Basically, it is nothing more than simply displaying them in the browser.

Search engines such as Google and Yahoo! often update their relevancy algorithm dozens of times per month. When you see changes in your rankings it is due to an algorithmic shift or something else outside of your control.

Although the basic principle of operation of all search engines is the same, the minor differences between their relevancy algorithms lead to major changes in results relevancy.

The search engine will then load those other pages and analyze that content as well. This process repeats over and over again until the crawling process is complete. This process is an enormously complex one as the Web is a large and complex place.

Search engines do not attempt to crawl the entire Web every day. In fact, they may become aware of pages that they choose not to crawl because they are not likely to be important enough to return in a search result.

Once the engines have retrieved a page during a crawl, their next job is to parse the code from them and store selected pieces of the pages in massive arrays of hard drives.

The first step in this process is to build a dictionary of terms.

This is a massive database that catalogs all the significant terms on each page crawled by a search engine.

One key concept in building a search engine is deciding where to begin a crawl of the Web.

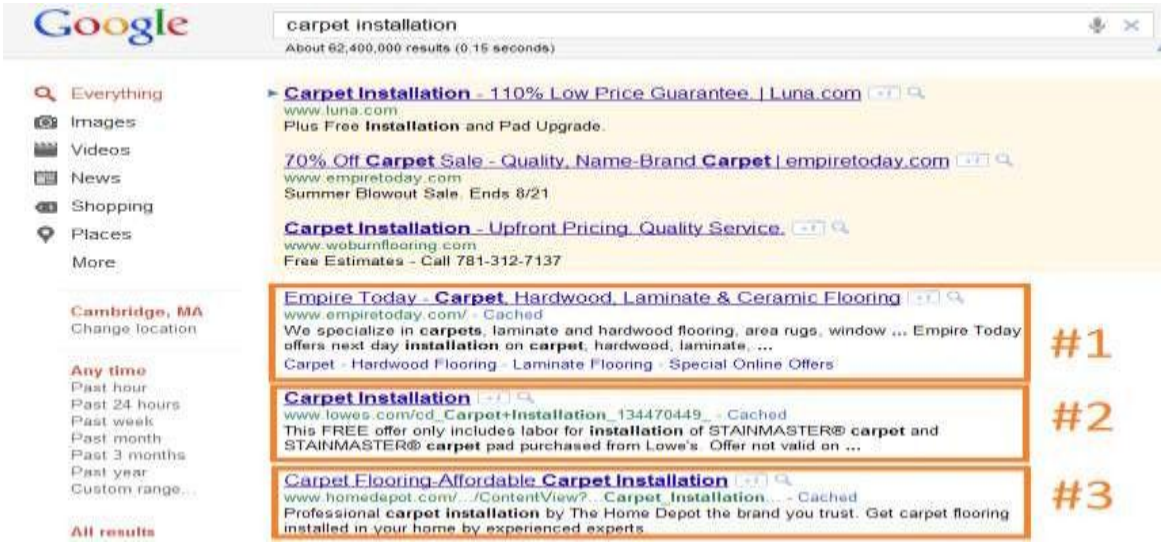
Although you could theoretically start from many different places on the Web, you would ideally begin your crawl with a trusted seed set of websites.

Aware of pages that they choose not to crawl because they are not likely to be important enough to return in a search result.

Rank

Rank is the position that your website physically falls in on the SERP when a specific search query is entered. If you are the first website in the organic section of the SERP (don‟t be confused by the paid ads at the very top), then your rank is 1. If your website is in the second position, your rank is 2, and so on.

As discussed previously in How Search Engines Work, your rank is an indicator of how relevant and authoritative your website is in the eyes of the search engine, as it relates to the search query entered.



- **Relevance.**

Relevance is the degree to which the content of the documents returned in a search matches the intention and terms of the user's query.

The relevance of a document increases if the page contains terms relevant to the phrase queried by the user, or if links to the page come from relevant pages and use relevant anchor text.

- **Importance.**

Importance refers to the relative importance, measured via citation (the act of one work referencing another, as often occurs in academic and business documents), of a given document that matches the user's query. The importance of a given document increases with every other document that references it. In today's online environment, citations can come in the form of links to the document or references to it on social media sites. Determining how to weight these signals is known as citation analysis.

Evaluating Content on a Web Page

Search engine crawlers and indexing programs are basically software programs. These Programs are extraordinarily powerful. They crawl hundreds of billions of web pages, analyze the content of all these pages, and analyze the way all these pages link to each other. Then they organize this data into a series of databases that enable them to respond to a user search query with a highly tuned set of results in a few tenths of a second.

This is an amazing accomplishment, but it has its limitations. Software is very mechanical; andit can understand only portions of most web pages. The search engine crawler analyzes the raw HTML form of a web page. If you want to see what this looks like, you can do so by using your browser to view the page source. Shows how to do that in Firefox (Tools Web Developer Page Source), and shows how to do it in Internet Explorer (Page View Source).

URL Structure

The actual structure of your website URL can have an impact on the search engines‟ ability to index and understand your websites content. Opting for a more organized URL structure will have the greatest impact. Some website creation software will insert arbitrary numbers and code in the URL. Although this may be optimal for the software, it serves no other purpose. If you can edit the URL to include the title of your webpage, you should do so. In fact, some website creation software, like Hub Spot, will automatically create URLs based off of your webpage content in order to eliminate this issue.

Pictures

There is nothing worse than landing on a webpage and being faced with mountains of text. Not only are pictures a great way to break up sections of text, but they also serve as an opportunity to communicate with the search engines. Because search engines cannot tell what a picture is by scanning it, they look for clues in two places.

Alt tags

Title Tags & Meta Tags:

Besides an actual text headline on your page, every webpage you create has a title tag. This is the text snippet that appears in the upper left corner or on the tabs of your web browser. Also, the title tag is the blue link that the search engines show when they list your webpage on the SERP. Title tags max out at 75 characters, so choose your words wisely.

Meta tags are snippets of code you can include within your webpage's HTML. The Meta tags are usually located near the title tag code in the head of your HTML. There are two Meta tags – Meta description and Meta keywords.

The Meta description is a text snippet that describes what your specific webpage is about. Meta descriptions are usually the first place a search engine will look to find text to put under your blue link when they list your website on the SERP. If you do not have a Meta description, the search engines will usually select a random piece of content from the page they are linking to.

The Meta description is limited to 150 characters.

Now, most search engines claim they do not even use meta keywords when indexing content. Some small or niche search engines may still use it though. As a best practice, it is recommended to put 5-7 keywords in the meta keywords, but don"t spend too much time thinking about it.

Headline Tags

When the search engine bots scan your webpages, they look for clues to determine exactly what your webpage is about. Keywords that are treated differently than most others on the page show the search

engines that they are more important than other keywords on the page. This is why the use of **headline tags** within your page is so important.

```
<div id="tagline">
        <h1>Inbound Internet Marketing Blog</h1>
        <h2>SEO, Blogging, Social Media, Landing Pages, Lead Generation and Analytics</h2>
</div>
```

Internal Linking

Up until this point we have only referenced inbound links, or those links coming to you website from other websites. When creating content for your website on your blog or on specific webpages, you may want to reference other pages on your website.

6 Ways to Become an Industry Thought Leader

1. **Maintain an Active Business Blog** Launching a blog that covers important topics relating to the industry in which you're selling is perhaps the best way to establish and uphold your image as a thought leader. A well-written blog will make prospects and current customers confident that the products and services they buy from you are created using industry expertise. Not only will maintaining an active business blog reward you with a more credible industry presence, but when done right, it will also afford you additional business benefits such as improved lead generation and a boost in search engine optimization.

2. **Contribute Guest Blog Posts:** Once you start gaining traction as a credible business blogger using

What search engines cannot see?

Image: A search engine cannot tell whether an image is a picture of Bart Simpson, a boat, a house, or a tornado. In addition, search engines will not recognize any text rendered in the image. The search engines are experimenting with technologies to use optical character recognition (OCR) to extract text from images, but this technology is not yet in general use within search.

Flash files: In addition, conventional SEO wisdom has always held that the search engines cannot read Flash files, but this is a little overstated. Search

Further, the search engines cannot see the pictorial aspects of anything contained in Flash. This means that when text is converted into a vector-based outline in Flash, the textual information that search engines can read is lost. Chapter 6 discusses methods for optimizing Flash.

Audio and video files: Audio and video files are also not easy for search engines to read. As with images, the data is not easy to parse.

Determining Searcher Intent and Delivering Relevant, Fresh Content.

Modern commercial search engines rely on the science of information retrieval (IR). This science has existed since the middle of the twentieth century, when retrieval systems powered Computers in libraries, research facilities, and government labs. Early in the development of Search systems, IR scientists realized that two critical components comprised the majority of Search functionality: relevance and importance (which we defined earlier in this chapter). To Measure these factors, search engines perform document analysis (including semantic analysis of concepts across documents) and link (or citation) analysis.

Document Analysis and Semantic Connectivity.

In document analysis, search engines look at whether they find the search terms in important
Areas of the document—the title, the metadata, the heading tags, and the body of the text.
They also attempt to automatically measure the quality of the document based on document
Analysis, as well as many other factors.
Reliance on document analysis alone is not enough for today's search engines, so they also

look at semantic connectivity. Semantic connectivity refers to words or phrases that are commonly associated with one another. For example, if you see the word aloha you associate it with Hawaii, not Florida. Search engines actively build their own thesauruses and dictionaries to help them determine how certain terms and topics are related. By simply scanning their massive databases of content on the Web, they can use Fuzzy Set Theory and certain equation to connect terms and start to understand web pages/sites more like a human does. The professional SEO practitioner does not necessarily need to use semantic connectivity measurement tools to optimize websites, but for those advanced practitioners who seek every advantage, semantic connectivity measurements can help in each of the following sectors:

• Measuring which keyword phrases to target
• Measuring which keyword phrases to include on a page about a certain topic
• Measuring the relationships of text on other high-ranking sites/pages
• Finding pages that provide —relevantll themed links

Although the source for this material is highly technical, SEO specialists need only know the Principles to obtain valuable information. It is important to keep in mind that although the World of IR incorporates hundreds of technical and often difficult-to-comprehend terms, these can be broken down and understood even by an SEO novice.

The following are some common types of searches in the IR field:

Proximity searches:
A proximity search uses the order of the search phrase to find related documents. For Example, when you search for –sweet German mustardll you are specifying only a precise Proximity match. If the quotes are removed, the proximity of the search terms still matters To the search engine, but it will now show documents whose contents don't exactly match The order of the search phrase, such as Sweet Mustard—German.

Fuzzy logic:
Fuzzy logic technically refers to logic that is not categorically true or false. A common Example is whether a day is sunny (e.g., if there is 50% cloud cover, is it still a sunny Day?). One way engines use fuzzy logic is to detect and process misspellings.

Boolean searches.
Boolean searches use Boolean terms such as AND, OR, and NOT. This type of logic is used to expand or restrict which documents are returned in a search.

Term weighting.
Term weighting refers to the importance of a particular search term to the query. The idea is to weight particular terms more heavily than others to produce superior search results. For example, the word the in a query will receive very little weight in selecting the results Because it appears in nearly all English-language documents. There is nothing unique About it, and it does not help in document selection.

IR models (search engines) use Fuzzy Set Theory (an offshoot of fuzzy logic created by Dr. Lotfi Zadeh in 1969) to discover the semantic connectivity between two words. Rather than using a thesaurus or dictionary to try to reason whether two words are related to each other, an IR system can use its massive database of content to puzzle out the relationships.

Although this process may sound complicated, the foundations are simple. Search engines need to rely on machine logic (true/false, yes/no, etc.). Machine logic has some advantages over humans, but machine logic is not as good at solving certain types of problems as people. Things that are intuitive to humans can be quite hard for a computer to understand. For example,

Both oranges and bananas are fruits, but oranges and bananas are not both round. To a human this is intuitive.

For a machine to understand this concept and pick up on others like it, semantic connectivity Can be the key. The massive human knowledge on the Web can be captured in the systems Index and analyzed to artificially create the relationships humans have made. Thus, a machine can determine that an orange is round and a banana is not by scanning thousands of Occurrences of the words banana and orange in its index and noting that round and banana do not have great concurrence, while orange and round do.

This is how the use of fuzzy logic comes into play. The use of Fuzzy Set Theory helps the Computer to understand how terms are related simply by measuring how often and in what Context they are used together.

Analyzing Ranking Factors.

SEOmoz periodically conducts surveys of leading search engine optimizers to determine whattheythink are the most important ranking factors (*http://www.seomoz.org/article/search-ranking-factors*). Here is a high-level summary of the top nine results:

- Page Level Link Metrics
- Domain Level Link Authority Features
- Page Level Keyword Usage
- Domain Level Keyword Usage
- Page Level Social Metrics
- Domain Level Brand Metrics
- Page Level Keyword Agnostic Feature
- Page Level Traffic/Query Data
- Domain Level Keyword Agnostic Features

Here is a brief look at each of these:

Page Level Link Metrics

This refers to the links as related to the specific page, such as the number of links, the Relevance of the links, and the trust and authority of the links received by the page.

Domain Level Link Authority Features

Domain level link authority is based on a cumulative link analysis of all the links to the domain. Factors considered include the number of different domains linking to the site, the trust/authority of those domains, the rate at which new inbound links are added, the relevance of the linking domains, and more.

Page Level Keyword Usage

This describes use of the keyword term/phrase in particular parts of the HTML code on the page (title element, <h1>s, alt attributes, etc.).

Domain Level Keyword Usage

This refers to how keywords are used in the root or sub domain name, and how impactful that might be on search engine rankings.

Page Level Social Metrics

Social metrics considered include mentions, links, shares, Likes, and other social media site–based metrics. At the time of the survey, the considered sites were Face book and Twitter. Since then Google has launched Google+, and Search, plus Your World, which

would also be included in this definition.

Domain Level Brand Metrics
This factor includes search volume on the website's brand name, mentions, whether it has a presence in social media, and other brand-related metrics.

Page Level Keyword Agnostic Features
Factors included here are on-page elements such as the number of links on the page, number of internal links, number of followed links, number of No Followed links, and other similar factors.

Page Level Traffic/Query Data
Elements of this factor include the click-through rate (CTR) to the page in the search results, the bounce rate of visitors to the page, and other similar measurements.
Domain Level Keyword Agnostic Features
Major elements of this factor in the survey included the number of hyphens in the domain name, numeric characters in the domain name, and domain name length.

Negative Ranking Factors
The SEOmoz survey also identified a number of negative ranking factors. Some of the most significant ones included: *Malware being hosted on the site*. The search engines will act rapidly to penalize sites that contain viruses or trojans. *Cloaking* Search engines want publishers to show the same content to the search engine as is shown
to users.*Pages on the site that sell links*
Googlehasa strong policy against paid links(*http://www.google.com/support/webmasters/bin/answer.py?answer=66736*), and sites that sell them may be penalized. *Content that advertises paid links on the site*As an extension of the prior negative ranking factor, promoting the sale of paid links maybe a negative ranking factor.

Other Ranking Factors
The ranking factors we've discussed so far are really just the basics. Search engines potentially factor in many more signals. Some of these include:

Rate of acquisition of links
If over time your site has acquired an average of 5 links per day, and then the links Suddenly start to come in at a rate of 10 per day, that could be seen as a positive ranking Signal. On the other hand, if the rate of new links drops to two per day, that could be a Signal that your site has become less relevant.
However, it gets more complicated than that. If your site suddenly starts to get 300 new Links per day, you have either abruptly become a lot more relevant or started to acquire Links in a spammy way. The devil is in the details here, with one of the most important details being the origins of those new links. The concept of considering temporal factors in link analysis is documented in a US patent held by Google that you can look up by searching for patent number 20050071741.

User data
Personalization is one of the most talked about frontiers in search. There are a few ways personalization can take place. For one, a search engine can perform a geolocation lookup to figure out a user's approximate location and then show results tailored to that location. This is very helpful, for example, if you are looking for a local restaurant.

Another way a search engine can get some data on a user is if the user creates a profile with the search engine and voluntarily provides some information. A simple example would be a language preference. If the user indicates he prefers Portuguese, the search engine can tailor the results to that preference.
Search engines can also look at the search history for a given user. Basically, the search engine maintains a log of all the searches you have performed when you are logged in. Based on this, it can see that you have been checking out luxury cars recently, and can use that knowledge to tweak the results you see after you search on *jaguar*. This is Sometimes referred to as *adaptive search*.
To avoid personalization, before searching users need to log out of their Google accounts and select –disable customizations based on search history‖ in the Google interface under Web History. This will allow the user to see Google results that are not personalized based on search history. However, the results will still be personalized to the user's location.
You can also depersonalize your search results by performing your search query, and then appending *&pws=0* to the end of the search page URL and reloading the page. You also need to have Google Instant turned off in your preferences.

Google sandbox

As we have discussed throughout this chapter, the search engines use a number of Methods to fight spam. One technique that many people believe Google uses has become Known as the Google –sandbox.‖ The sandbox is thought to be a filter where Google limits The rate of growth of the Page Rank (or rankings) of new domains.
This approach could be useful in filtering out spam domains because they often don't stay Around very long, so the spammer works hard to get them ranking and producing traffic as quickly as they can. The sandbox can potentially create a scenario where the website is caught by improved algorithms or manual review prior to becoming highly productive. At a minimum, it would increase the cost of the spammer's efforts.

Using Advanced Search Techniques
One of the basic tools of the trade for an SEO practitioner is the search engines themselves. They provide a rich array of commands that can be used to perform advanced research, Diagnosis and competitive analysis. Some of the more basic operators are:

-keyword

Excludes the keyword from the search results. For example, loans -student shows results for all types of loans *except* student loans.

+keyword

Allows for forcing the inclusion of a keyword. This is particularly useful for including *Stop words* (keywords that are normally stripped from a search query because they usually do not add value, such as the word *the*) in a query, or if your keyword is getting converted into multiple keywords through automatic stemming. For example, if you mean to search for the TV show *The Office*, you would want the word *The* to be part of the query. As anotherexample, if you are looking for Patrick Powers, who was from Ireland, you would searchfor patrick powers + Ireland to avoid irrelevant results for Patrick Powers.
"*key phrase*"Shows search results for the exact phrase—for example, "seo company".

Keyword1 OR *keyword2*

Shows results for *at least one* of the keywords—for example, google OR Yahoo!.
These are the basics, but for those who want more information, what follows is an outline of
The more advanced search operators available from the search engines.

Vertical Search Engines

Vertical search is the term people sometimes use for specialty or niche search engines that focus on a limited data set. Examples of vertical search solutions provided by the major search engines are image, video, news, and blog searches. These may be standard offerings from these vendors, but they are distinct from the engines' general web search functions.
Vertical search results can provide significant opportunities for the SEO practitioner. High
Placement in these vertical search results can equate to high placement in the web search
Results, often above the traditional 10 blue links presented by the search engines.
Vertical Search from the Major Search Engines
The big three search engines offer a wide variety of vertical search products. Here is a partial list:

1) Google
2) Google Maps, Google Images, Google Product Search, Google Blog Search, Google Video,
3) Google News, Google Custom Search Engine, Google Book Search, Google US Gov't
4) Search, etc.
5) Yahoo!
6) Yahoo! News, Yahoo! Local, Yahoo! Images, Yahoo! Video, Yahoo! Shopping, Yahoo!
7) Audio Search, etc.
8) Bing
9) Bing Image, Bing Video, Bing News, Bing Maps, Bing Health, Bing Products, etc.

SEARCHEING IN BASICS.
Image search
All three of the big search engines offer image search capability. Basically, image search engines Limit the data that they crawl, search, and return in results to images. This means files that are in GIF, TIF, JPG, and other similar formats. A surprisingly large number of searches are performed on image search engines. According to comScore, more than 1 billion image searches were performed on Google Image Search
It is likely that at least that many image-related search queries occurred within Google web search during that same time frame; however, since an image is a binary file, search engine crawlers cannot readily interpret it. Historically, to determine an image's content, search engines have had to rely on text surrounding the image, the alt attribute within the img tag, and the image filename. However,

Google now offers a search by image feature you can drag an image file into the Google Image Search box and it will attempt to identify the subject matter of the image and show relevant results. Optimizing for image search is its own science, and we will discuss it in more detail in –Optimizing for Image Search‖ in
Video search as with image search, video search engines focus on searching specific types of files on the Web—in this case, video files in formats such as MPEG, AVI, and others.
A very large number of searches are also performed in video search engines. YouTube (http://www.youtube.com) is the dominant video search engine, with over 3.8 billion searches performed in June 2011, representing more than 14% of all search queries performed on the Web. This makes YouTube the third largest search engine on the Web (Bing is larger when you consider the cumulative search volume of Bing + Yahoo!). As with image search, many video searches are also performed directly within Google web search.
There is significant traffic to be gained by optimizing for video search engines and participating in them. Once again, these are binary files and the search engine cannot easily tell what is inside them.

SEARCHEING IN WEB BASICS

Each search engine is investing in technology to analyze images and videos to extract as much information as possible. For example, the search engines are experimenting with OCR technology to look for text within images, and other advanced technologies are being used to analyze video content. Flesh-tone analysis is also in use to detect pornography or recognize facial features. The application of these technologies is in its infancy, and is likely to evolve rapidly over time.

News search

News search is also unique. News search results operate on a different time schedule, as they
Must be very, very timely. Few people want to read the baseball scores from a week ago when several other games have been played since then.
News search engines must be able to retrieve information in real time and provide nearly
Instantaneous responses. Modern consumers tend to want their news information now.
As with the other major verticals, there is a lot of search volume here as well. To have a chance of receiving this volume, you will need to become a news source. This means generating timely, topical news stories on a regular basis. There are other requirements as well.
Next up in our hit parade of major search verticals is local search (a.k.a. map search). Local
Search results are now heavily integrated into the traditional web search results, so a presence in local search can have a large impact on organizations that have one or more brick and mortar locations. Local search engines search through databases of locally oriented information, such as the names, phone numbers, and locations of local businesses around the world, or just provide a service, such as offering directions from one location to another. The integration of local search results into regular web search results has dramatically increased the potential traffic that can be obtained through local search.

Blog search

Google has implemented a search engine focused just on blog search called Google Blog Search (misnamed because it is an RSS feed engine and not a blog engine). This search engine will respond to queries, but only search blogs (more accurately, feeds) to determine the results.

Book search

The major search engines also offer a number of specialized offerings. One highly vertical search engine is Google Book Search, which specifically searches only content found within books.

Shopping search

Microsoft also has some unique vertical search properties. One of the more interesting ones is its vertical shopping search solution.

Universal Search/Blended Search

Google made a big splash in 2007 when it announced Universal Search. This was the notion
Of integrating images, videos, and results from other vertical search properties directly into the main web search results.

The other search engines quickly followed suit and began offering vertical search integration
Before the end of 2007. People now refer to this general concept as Blended Search (since
Universal Search is specifically associated with Google). A look at some Universal Search results from Google can help illustrate the concept

Note the image results, along with the news results farther down. This information is coming
from Google's news search index. If you look farther down in the search results, you will
Continue to see more vertical results, including video results.
A wide range of vertical data sets have been integrated into Google's Universal Search, as well as into the Blended Search results of the other search engines. In addition to the preceding examples, you can also see images, videos, and local data integrated into the traditional web Search results.

The advent of Blended Search has significantly increased the opportunity for publishers with Matching vertical data sets (such as a rich music library) to gain significant additional traffic to their sites by optimizing these data sets for the appropriate vertical search.

Meta search

Meta search engines are search engines that aggregate results from multiple search engines And present them to the user. The two best-known ones are MetaCrawler.com and Dogpile.com. However, their cumulative search volume is quite small, and these do not factor into SEO strategies.

More specialized vertical search engines

Vertical search can also come from third parties. Here are some examples:

- Comparison shopping engines, such as PriceGrabber, Shopzilla, and NexTag
- Travel search engines, such as Expedia, Travelocity, Kayak, and Uptake
- Real estate search engines, such as Trulia and Zillow
- People search engines, such as Spock and Wink
- Job search engines, such as Indeed, CareerBuilder, and SimplyHired
- Music search engines, such as iTunes Music Store
- B2B search engines, such as Business.com, KnowledgeStorm, Kellysearch, and ThomasNet

Country-Specific Search Engines

At this stage, search is truly global in its reach. Google is the dominant search engine in many countries, but not all of them. How you optimize your website depends heavily on the target market for that site, and the search engines that (are) the most important in that market.

According to comScore data from June 2011, Google receives 68.9% of all searches performed worldwide. In addition, Google is the market share leader in every major regional market. In the Asia Pacific region, however, Google holds a relatively narrow 42.3% to 24.8% edge over Baidu, the largest search engine in China. This is the only regional market in which Google has less than 60% market share, and it also happens to be the largest market for search in the world (in terms of total searches performed).

Here is some data on countries where other search engines are major players:

China:

Baidu News reported in April 2011 that Baidu had more than 75% market share in China In 2010 (http://www.bbc.co.uk/news/business-13205047). This is significant since China boasts the largest Internet usage in the world, with 420 million users in 2010 according to the China Internet Network Information Center.

Russia:

According to figures announced by Yandex, the company's market share in Russia Comprised about 65% of all searches in March 2011 (http://searchengineland.com/russias-search-engine-yandex-steathily-moves-west-86458).

South Korea:

Naver (http://www.naver.com) was estimated to have about 70% market share in South Korea in February 2011 (http://searchengineland.com/should-korean-search-engine-naver-worry-about-local-competitors-or-google-65401, http://www.iht.com/articles/2007/07/04/business/naver.php).

Czech Republic:
The Startup Meme Technology blog reported Seznam (http://seznam.cz) as having more than 45% market share in the Czech Republic in early January 2011 (http://searchengineland.com/google-nunber-one-czech-republic-5-countries-left-61174). During that time frame, Google was estimated to have about 47% market share.

Optimizing for Specific Countries
One of the problems international businesses continuously need to address is identifying Themselves as –local‖ in the eyes of the search engines. In other words, if a search engine user is located in France and wants to see where the wine shops are in Lyons, how does the search engine know which results to show?
Here are a few of the top factors that contribute to international ranking success:

- Owning the proper domain extension (e.g., .com.au, .co.uk, .fr, .de, .nl) for the country that Your business is targeting
- Hosting your website in the country you are targeting (with a country-specific IP address)
- Registering with local search engines:
- Having other sites from the same country link to you
- Using the native language on the site (an absolute requirement for usability)
- Placing your relevant local address data on every page of the site
- Defining your preferred region in Google Webmaster Tools

All of these factors act as strong signals to the search engines regarding the country you are targeting, and will make them more likely to show your site for relevant local results.
The complexity increases when targeting multiple countries.

Conclusion: - Understanding how search engines work is an important component of SEO. The search engines are constantly tuning their algorithms. For that reason, the successful SEO professional is constantly studying search engine behavior and learning how they work.