

WEBRESEARCH

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Today it is probably as easy as never before to find information using the web, but to find the right kind of information is not as easy.

Web/ Online Research Approach from a personal experience

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Ever since using the Internet through the Arpanet in 1991, I have a keen interest on how to use the Internet for information and knowledge research. Without any doubt the Internet has changed the concept of knowledge, research and sharing information. Today, it is so easy to find out about anything you might want to know on the Internet, but most of us find it too time consuming and too much information. Therefore I would like to share some of my rants and roars on how I use the Internet for research and what tools are invaluable for my work with and on the Internet.

Basically I want to raise a number of issues I find absolutely important, such as "economics of research", "search engines" ... maybe not just

Google ... topical research, business & academic research, tools other than your "search engine" that can help you increase your efficiency and some ideas on how to store/ bookmark all that information you find. Another thing that I will incorporate in my rants here will be a section covering on how to store/ maintain your findings, be it in bookmark-format or in folders. While this falls somewhat in the productivity category, I still think it fits better in the Research section of my website.

This document is currently only a draft mode and will be extended at some point, but should be helpful as it stands today.

Main Topics to be covered:

1. How to start your web research & economics of web research.
2. Define your research, or the issue of topical and specified research.
3. How to use search engines & how do you use them efficiently.
4. Other tools that can help you to (efficiently) use the web for your research.
5. Filing, bookmarks etc.

1. How to start your web research & economics of Web Research

One of the questions you have to ask yourself right away before starting any search on Google or somewhere else is what quality you expect your research results to be. The Cost-Use-Time-Effort-Relation with regards to the quality of information to be found is crucial. So while you don't mind the accuracy of a Wikipedia research for initial research or some private things, it might not be accurate enough or even acceptable for your academic or professional work. In the case of Wikipedia, which is a fantastic tool to quickly get started on a topic, it is crucial to understand that this is in no case an acceptable resource e.g. for an academic paper. Nevertheless you might find a lot of resource links that accompany those texts. So you have to ask yourself from the beginning three main important things:

1. What do you want to know?
2. How exactly/ detailed do you want to research?
3. How important is it to get the answer in the quality wanted?

The next step is then to define of where you could find the bits and pieces of information that you are looking for. Depending on what you are looking for you need only little, in some cases you have to go rather deep and need to get to know as much as possible about a topic. So you have to consider four different places/ tools that can help you to get ahead:

- Meta Search Engines (Wikipedia Definition), searching search engines.
- Subject Directories . Index of Websites, sorted in categories thematically.
- Search Engines in the likes of Google ... and others.
- Link collections/ Specialized Databases. Private/ public sites with links to specified topics.

Meta Search Engines, search in search engines and provide "their" results. They can save you some time, but too often you get way too many "hits". But some of them help you to specify and filter further within their site, which makes them quite helpful. They quickly and superficially search several individual search engines at once and return results compiled into a



"They say the Web is a "useful tool."
I say the Web changes everything. Now."
Tom Peters

(sometimes) convenient format. They only catch about 10% of the search engines they visit . A few examples for Meta Search Engines are:

- **DogPile.com** (comfortable with a few additional functions)
- **Clusty.com**, formerly Vivisimo.com (clusters the search results in groups, very useful)
- **Mamma.com** (Intelligent meta search engine, very easy to use)
- **HotBot.com** (searches **ask.com** and **msn.com**)
- **KartOO.com** (providing a "mapped-out" overview, of search results, interesting but so far not very usable)

Subject Directories are indexes of links and documents put together by organizations that are specializing in a particular topic. The "results" there are sorted in categories thematically. This not only provides a fantastic quick and first overview, but in some cases it is also just enough for what you are looking for. These "catalogues" are quite often maintained by an industry association, university department or individual companies. They are often carefully evaluated and kept up-to-date, but not always that frequently particularly if they are large and of more general nature. Examples of those are:

- **LookSmart.com** (wide offerings, deliver to search engines and portals)
- **EuroSeek.com** (specialized in European Documents, now powered by Google)
- **Answers.com** (access to topics from various sources, e.g. publishers etc.)

Search Engines are "information retrieval systems", as defined by Wikipedia. Everyone today knows Google, but there are a lot more out there, with some of them actually quite useful. One of the big drawbacks of the "general" search engine is, that basically most people don't know how to use them effectively and getting thereby relatively easy frustrated using them.

- **Google.com** (or .de, .uk, .ca, .fr etc.) (no comment, simply fantastic)
- **AllTheWeb.com** (an alternative, also very good results)
- **Altavista.com** (one more)

Link collections and/ or Specialized Databases can be part of company websites, websites of university departments or on websites of individuals. Quite often specified blogs to a particular topic can also contain a lot of links that can guide you further in your research.

These can be bibliography databases, online lexica, document delivery services, full text databases or simply information databases. They are very individual points to start with and depending largely on the topic of your research, e.g. is it finance, legal research, industry specific etc. Some good points to start with:

- Bibliography Databases, e.g. **Hvar.is** (only accessible from Iceland) it provides free online access to an amazing number of online scientific, business, legal, technology publications and much more.

- Lexica, the classic one would be [Wikipedia.org](https://www.lexica.com/), and while it is not useable as an academic resource, it is nevertheless a fantastic starting point. It provides you with a quick overview and definition of things you are looking for and often provides you with valuable links in the resources section of the wikipedia article.

All of these possible resources for your research have their advantages and disadvantages and it really depends on what exactly you are looking for. You can loose yourself in all of them quite easily, so it helps to specify exactly what you are looking for. If you have a clear idea, you can then evaluate what tool or option would be the best solution. If time is of essence, Google might be a good start from a search engine perspective, but if quality is important, a search engine can guide you quickly to "web catalogues" or "link collections" of e.g. an industry association that covers what you are looking for.

2. Define your research, or the issue of topical and specified research

When you start to research something, you quite often find yourself opening your favorite search engine. You type in a number of words that describe in detail what you are looking for. Well, you will get a large number of sites with loosely related or unrelated topics, but you haven't come much further in getting closer to an answer of what you were looking for. So do yourself a favour asking yourself a number of quick questions before you "google" away. What exactly are you looking for, is it as simple as a definition, or is it an overview on a particular industry segment, statistical data for a country, financial data or something else? Each and single option has different ways to start.

Let's start with the simple question of a definition for or an explanation of a particular word/ phrase/ term etc. A good way to start is the "define" function in Google, simply type into the search field "define:searchterm". (replace "searchterm" with your "search term" [[link with tip](#)]). This gives you a quick definition, if it is available. Next step or different possibility is to go on [Wikipedia.org](https://www.wikipedia.org/) and search there. There you might not get quickly what you are looking for, but it is simple and useful and you might be able to find results in different languages. So while it might not

exist an entry in Germany it might exist in English.

--> Key Tip: If you have a search term, try to play with the words. E.g. don't use verbs, try different spellings etc.

If you look for something more specific you might want to start at some industry association or a university etc. So define exactly what you are looking for, e.g. are you looking for some financial data, some country statistical data, some industry sector specific data, academic resources for all there are different starting points possible. Google has several services available that are tailored for specific research needs. (Overview here: [Google Search Features](#)) So when you are looking for financial information of e.g. a company [Finance.Google.com](https://www.finance.google.com/) is a good place to start, offering a broad range of information about stocks, interactive charts, news, fundamental data - and what I have found very useful - names of competitors in the market. If you start in typing the company name, it provides you with names similar to what you are looking for. The site doesn't provide it for all companies internationally, but it gets better by the day ever since it was started. Another option is e.g. for academic research [Scholar.Google.com](https://scholar.google.com/), which provides a search of scholarly literature across many disciplines and sources, including theses, books, abstracts, and articles. Both functions of Google are mentioned here only as examples. It really varies what you are looking for, but you can specify and tailor your research quite easily if you take the time thinking a bit more of what exactly you need.

Generally keep in mind the "economics of research", as mentioned above. Do you want to look up something rather quickly and are not worried about the quality, or do you need detailed and trustable information? Depending on the answer, plan your research accordingly.

3. How to search search engines & how to use them efficiently

I have kept this part of my rants on online research a bit waiting, as it simply is rather difficult to describe how to use search engines. Everybody will have a different opinion if this is either extremely boring, absolutely new and fantastic, or simply wasted reading. So I am not going to reinvent the wheel and point out to one excellent "Google Cheat

Sheet" that I think is worth reading and gives an excellent overview on how to search on Google. Fair enough there are a number of other search engines out there, and I mentioned a few above. Personally I have been using Google and basically live in there, as my colleagues are telling me.

The few key ways of using Google (taken from the [Google Cheat Sheet](#)):

SAMPLE QUERIES	IN RESPONSE GOOGLE GIVES YOU PAGES with ...
holiday travel	the words holiday and travel
Aruba OR Bermuda	the word Aruba or Bermuda
"I have a dream"	the exact phrase I have a dream
+I spy	the words I & spy (force Google not to ignore I)
salsa -dance	the word salsa but NOT the word dance
part-time	the words part-time, part time, or parttime
Google ~Guide	the words Google & both guide & its synonyms
hybrid cars site:npr.org	hybrid cars from the website npr.org
kite aerial photos site:ca	kite aerial photos from the .ca domain (from Canada)
kite aerial photos *.ppt	kite aerial photos in PowerPoint format (try also *.pdf)
define:	definitions of gato from the web in several languages

I encourage you to read more on that page.

Generally, it is important to try different ways of using your search terms. So you might want to play with your search terms. Instead of using sentences, you should try only nouns or instead of only nouns full sentences ... try it and you will be surprised of the difference in search results. You should also try the advanced search function of Google, where you can define even further, e.g. the time frame which you are looking for etc.

If you are looking for pictures, the Google image search also comes in quite handy, e.g. if you don't know how a particular fruit name, just type it in there and you quickly get a picture.

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4. Other tools that can help you to (efficiently) use the web for research

There are a large number of tools to help your research. There are software tools and websites that can be of great use. Let's start with the main software tool, browsers.

Browser:

The key to searching is the right browser for your liking. While Microsoft's Internet Explorer is still the predominant browser (there is no version for Apple), there are others, such as Safari and Camino which are only existing for the Apple. But probably the most useable are Firefox and Opera. Personally, I prefer Firefox and have started to love all the different tools (extensions) that are available for this browser. "Tabbed Browsing" allows you to have various tabs with websites open in one browser window, the "Tab Groups" extension then allows you to go even further and have groups of tabs, one of the most useful things you can find in a browser.

My favorite extensions and the ones I use frequently:

- Open Search Fox, search functionality for any site with a search box,
- Tab Groups, creates groups of tabs open in your browser window,
- ScrapBook, saves web pages and manages easily your collections,
- Send Tab URLs, allows you to send the URLs from open tabs via e-mail,
- All-in-One Sidebar, sidebar control (easily to be customized),
- Download Sort, filters downloads into different folders,
- Gmail Manager, no open gmail necessary anymore, and
- Get Directions from Google Maps (highlight an address, right click to "Locate on Google Map")

Websites:

The other kind of help you can get is from the right websites to start with your research. This time I am not speaking about "search engines", but rather of websites that come in handy. One of the most fantastic tools I came across is the Wayback machine of the Internet Archive. This site allows you to go back in time and search for "older versions" of a website, which is rather helpful for websites or parts thereof that aren't online anymore and for simply checking on how websites looked in the past. This

is in cases not only funny but extremely interesting.

Other websites that can be helpful are rather specialized and depend on the topic of your research. For example if you are doing some financial research, websites like Oanda.com (for currency exchanges rates, current and back dated), Finance.Google.com (the financial search engine of Google), Reuters.com and others are a good point to start.

Some other tools that I use frequently:

- BugMeNot.com (ever needed quickly a username and password to access a site, then this is for you)
- Fake Name Generator (if you quickly need a fake identity for a website registration)
- ... there are a lot more but the top two have helped me the most lately.

Other:

There are some other tools that can be of great use. One I like a lot is Google Notebook. This service allows you to "clip and collect information as you browse the web". Very useful if you want to quickly collect a few things that you find while surfing the web. Another very useful service of Google is the "Personalized Homepage", while this already goes into the issue of productivity which I am discussing in my pages on this issue, it still fits here as it allows you to search your own search efforts. It gives you as well an overview on various services, such as task lists, Google Calendar, Gmail and a lot of others, right on that page you are using all the time. Very useful.

5. Filing, Bookmarks ... organizing etc.

Another big issue of researching is the use of bookmarking. I am still trying to find the "perfect" way of storing, moving, using my collected bookmarks, which are currently spread between my work computer (PC) and my home computer (Apple). I recently covered the issue on my blog page, "Organizing Bookmarks". One way to circumvent having two sets of bookmarks would be to have "PortableApps Suite" (1st preference) or "MojoPac", which both allow you to run your browser and email via a USB stick, iPod or similar. A very useful tool is also "Foxmarks", a web service allowing you to store/ sync your bookmarks online.

The other big issue is how to store and organize all those files you download, or even how you should name the files. I will go into this at a later stage and will post my rants and roars here. Sorry.

Additional Reading

A few articles of interest:

- [Seek and Ye Shall Find: Locate Original documents on the web](#) (via: lifelhacker.com)
- Special: [Seek and Ye Shall Find: How to search the invisible web](#) (via: lifelhacker.com)
- The Invisible Web (via: websearch.about.com)