

Technology Watch and Competitive intelligence for SEM-SEO

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1. Introduction

We can define Technology Watch as the systematic procedure of capturing, analysing and exploiting useful information for strategic decision making in a company or organisation.

In this article we will **analyse** what Technology Watch consists of and its relation with other similar disciplines, like strategic planning, knowledge management and especially competitive intelligence, to which it is inseparable.

Then we will see how to **apply** Technology Watch techniques to specific web positioning processes (SEO) and search engine marketing (SEM). The sources of information, its analysis and its exploitation will be specific to the SEM-SEO processes.

On the other hand, we will make a special note of the free resources, both of information sources and the computer programmes freely available on the Internet.

2. Definitions

Technology Watch "consists in systematically capturing, analysing, disseminating and exploiting useful technical information for the watch and growth of a company. Watch must be ready for any scientific or technical innovation susceptible to creating opportunities or threats." (Escorsa, 2001a)

The main application of Technology Watch is to **obtain technical information to make decisions in a company's production department**. However, the watch processes are also applied to **commercial decision making processes**. In these fields, the terms Commercial

Watch, Competition Watch or Surrounding Watch are often used, even though Technology Watch is also used, becoming the commonly used term.

Here we will use "Technology Watch" in the generic sense, comprising both technical and commercial information.

TW is inseparable from Competitive Intelligence, and often both terms are used "Technology Watch - Competitive Intelligence (TW - CI).

Among the two disciplines, there is a key difference: while TW emphasises on the search and capturing of relevant information to make decisions, Competitive Intelligence refers to the same process, but with the emphasis on creating new information, often implying the capture of new information to understand it.

"Competitive intelligence is a systematic and ethical program for gathering, analysing, and managing any combination of Data, Information, and Knowledge concerning the Business environment in which a company operates that, when acted upon, will confer a significant Competitive advantage or enable sound decisions to be made." Society of Competitive Intelligence Professionals (SCIP)

"Competitive Intelligence" is more often used than "Technology Watch," but in the Spanish literature the opposite occurs: "Vigilancia Tecnológica" is more common than "Inteligencia Competitiva."

This article will focus on the **search and capturing phases** of the information, and thus mainly use the term "Technology Watch."

TW is closely related to a company's Strategic Planning, which provides an action framework focused on the activity by defining critical factors that must be "watched."

The following actions are taken in the **strategic planning**:

1. Analyse the internal and external activity of a company
2. Identify the Strengths, Weaknesses, Opportunities and Threats (**SWOT Analysis**)
3. Create a strategy plan with short and mid-term aims
4. Relative to the previous points, define the critical watch factors

Moreover, TW is complemented with Knowledge Management processes. While TW searches and creates information foreign to the company, the management of the knowledge is focused on internal information.

"Knowledge management documents or makes the most of the company personnel's experiences, looking at the past and making sure that this knowledge is shared through the intranet and electronic email. Intelligence [TW] mainly looks at the information

foreign to the company. It hopes to foresee: To capture weak signals - what is starting to occur, which obviously must be assimilated as soon as possible - thus it hopes to detect opportunities and threats." (Escorsa, 2001)

So the management of knowledge is mindful of the internal flows of information with the mission of promoting the effective exchange of information and safeguarding the company's internal documentation. At the same time, Technology Watch searches for and creates information external to the company, which at a given percentage allows for the making of decisions, becoming internal information / knowledge that finally becomes part of the knowledge management.

3. The Technology Watch process

The first phases of the TW process are the following:

1. Identify and analyse the company's information needs defining the critical watch factors (CWF)
2. Search and obtain the necessary information for tracking the CWF
3. Evaluate and analyse the information obtained
4. Internally disseminate the results
5. Use the information in the decision making process

These five phases are executed continuously and cyclically. Often the decisions made imply the existence of new CWF, starting a new cycle.

In the following sections we will apply this generic process, useful in any type of company, to the specific case of SEO-SEM processes and services.

4. Information needs and critical watch factors

There are two key external information needs a company has:

1. Technological information needs: Know the technological changes that could affect the company as soon as possible
2. Commercial information needs: Know what the competitors are doing and know any changes in the general commercial environment

From these two types of needs we can specify the Critical Watch Factors (CWF) as external company factors critically affecting its competitively. Each activity, even each company department, can have specific CWF that depend mainly on the defined strategic plan.

For a good TW design, the CWF must be defined as specifically as possible. For example, a SEO-SEM company could have the following CWF:

Technology CWF

1. The specific information on what type of SEO practices are penalised by Google
2. Changes in Page Rank algorithms
3. Changes in Google, Yahoo, Live's algorithm order...
4. Nuances in the service features in search engine marketing
5. Appearance of new specialised search engines

Commercial CWF

1. What is the profile for users who are interested in our services but still not our clients?
2. How is our target?
3. Is our service truly what our clients need? Could we offer additional services?
4. What search engine is the leader in the search engine marketing sector and what is their market share?
5. How do the Internet users behave?
6. What new concepts, services, companies....are there any in my sector?

Specific CWF for SEO-SEM campaigns

1. In what directories can I register the positioned webpage?
2. Are there new domain names registered related to the page positioned?

These are the most general and typical factors. Each company must define a few more relative to their strategy plan and specific needs.

There are three types of competitors in the competitive watch section and for the specific case of the SEM-SEO companies:

1. Classic competition: SEO companies that compete with us offering the same or similar services
2. SEO competition: Web pages that compete with others in search engine positioning with specific key words
3. SEM competition: Web pages that compete with others in search engine ad positioning with specific key words

Each one of these cases require the definition of specific CWF:

Classic competition:

1. What campaigns do our key competitors carry out?
2. What products and services do our competitors offer?
3. What guarantees do our competitors offer?
4. What prices do our competitors offer?

SEO competition

1. What incoming links do our competitors have?
2. What Page Rank do our competitors have?

SEM competition:

1. Who are our direct competitors?
2. What CPC (maximum cost per click) do our competitors have in specific key words?

5. Search for the necessary information for tracking the CWF

After having identified the CWF, we must specify what **information sources** we will use to track and continue defining the procedure to obtain this information constantly and periodically, applying some of the following tools:

- Service alert
- Webpage software monitoring
- An adding agent
- Search agent
- Search engine, multi-search, metasearch, news search, weblog search
- Subscription to an RSS channel
- Data mining procedure
- Bibliographic database
- Patent database
- Distribution list
- Some invisible web databases

The information sources can be formal or informal, in various supports (paper, digital...) or none at all, like through conversations. In this article we focus on the digital sources freely accessible through the Internet, such as:

1. Bibliographic databases of specialised journal articles
2. News articles accessible through news search engines
3. Patents and standards accessible through patent search engines or databases
4. Company databases and webpages
5. Statistics
6. Blogs accessible through blog search engines
7. Congress, conference and seminar acts
8. Distribution lists

The informal information sources, like conversations with clients, suppliers, competitors, employees, partners and investors are very interesting information sources, but two things must be kept in mind:

1. They must be formalised, written down or recorded as soon as possible to avoid losing them. Any sort of description must at least have the following sections: Who, when, where and what.
2. They must often be validated through other sources

Once the pertinent CWF and information sources are identified, each CWF must be associated to specific information sources and each source to a specific procedure to exploit it using specific tools and services. For example:

1. CWF: SEO practices that can be penalised. Information source: Google homepage. Tool: Monitor changes
2. CWF: What products and services do our competitors offer? Information source: Competing company's homepage. Tool: Monitor changes , adding agent
3. CWF: What nuances are there in terms of Google's Page Rank? Information source: Specialised weblogs. Tool: Data mining
4. CWF: What incoming links do our competitors have? Information source: Search engines. Tool: Search engines.

6. Information analysis

To make **decisions**, it is not enough to just have the proper information. It must be evaluated and analysed to select what is most pertinent and then present it to be understood. It is useless to obtain large amounts of data if we are then unable to process it for use.

The most processed final result of a TW process is the report providing the various, but quality, data and information evaluated and pertinent for making the specific decision.

As we have indicated, the specific procedure to write-up this report is:

1. Identify the information need
2. Define the critical watch factors (CWF) relative to this need
3. Define the information source for each CWF
4. Choose the proper tool to systematize the information capturing for each CWF
5. Install and / or configure the tool according to the CWF requirements
6. Execute the tool and obtain the information
7. Value the information obtained
8. Intellectual processing of the valued information: comparison, understanding it to finally...
9. Write the report

This is the theoretical procedure. The actual practice could be different because of the following:

1. A final report is not always necessary. Often, the company's dynamic makes them unnecessary or impossible since decisions must be made quickly or because the information obtained is insufficiently clear, and is not worth the resources to write-up the report
2. The previously described phases are not executed completely or strictly, not following the indicated order. For example, defining the CWF before specifying the information need. Relative to the data obtained and its processing, new CWF can be detected that are incorporated into the system. The use of tools can also be expanded by changing the configuration of services already used or by incorporating new computer programmes.

For TW to be effective and profitable, a flexible design is required that allows for the constant recreation of each of the phases, without losing control of the process or information obtained.

Even though there are few CWF, it is easy for a large amount of information to be generated quickly. Access to this information must be easy and flexible. The solution would be to create a repository of all of the useful TW information, applying the following guidelines:

1. All of the encoded information in a homogeneous format (HTML, PDF...)
2. Accessible through an information retrieval system, like a classic search engine, a desktop search engine or a document database.

In this context, three specific moments must be distinguished:

1. Periodic review of the information in alert s, adders, RSS ch annels, monitors, search engines, databases...
2. Store the information in a repository
3. Exploit the repository to make decisions and improve the system itself

7. Conclusions

This article has defined Technology Watch (TW) as applied in the specific case of positioning campaigns and on-line marketing using free on-line information sources and tools. The main TW process phases have been described, making special note of the Critical Watch Factors (CWF) as a key element in designing the TW process. The discipline is not fully covered in this article, since its application in a different field would require the use of other sources and tools.

8. References

- Competitive Intelligence Dictionary
<http://www.fuld.com/TIndex/IntelDict.html>
- Inteligencia Económica y Tecnológica. Guía para principiantes y profesionales
http://www.madrimasd.org/informacionidi/biblioteca/publicacion/doc/15_InteligenciaEconomicaTecnologica.pdf
- Pere Escorsa Castells, Ramón Maspons. De la vigilancia tecnológica a la inteligencia competitiva. Madrid: Pearson Alhambra, 2001b
- Pere Escorsa Castells. De la vigilancia tecnológica a la inteligencia competitiva en las empresas, 2001a.
http://www.uoc.es/web/esp/art/uoc/escorsa0202/escorsa0202_imp.html
- Society of Competitive Intelligence Professionals (SCIP). Language of BI
<http://www.scip.org/content.cfm?itemnumber=2226&&navItemNumber=2227>

- The language of competitive business intelligence. Competitive Intelligence Glossary <http://www.quantum3.co.za/CI%20Glossary.htm>
- What Is Competitive Intelligence? <http://competitive-intelligence.mirum.net/>
- Wikipedia. Competitive intelligence http://en.wikipedia.org/wiki/Competitive_intelligence
- Search Engine Showdown: The Users' Guide to Web Searching. <http://www.searchengineshowdown.com/statistics/overlap.shtml>
- Search Engine Watch. Metacrawlers and Metasearch Engines. <http://searchenginewatch.com/showPage.html?page=2156241>

9. Annex: tools

There are many on-line servers, programmes and web services that may be used in searching for the necessary information to track the Critical Watch Factors (CWF) in the context of Technology Watch. Without attempting to be comprehensive, below we list tools that we feel may be of most interest.

Search engines and metasearch engines

MetaCrawler <http://www.metacrawler.com>

Dogpile <http://www.dogpile.com>

Clusty <http://www.clusty.com>

Iboogie <http://www.iboogie.com>

KartOO <http://www.kartoo.com>

Grokker <http://www.grokker.com>

Specialised academic search engines

Scirus <http://www.scirus.com>

Google Scholar <http://scholar.google.es>

A9 <http://a9.com>

CiteSeer <http://citeseer.ist.psu.edu>

News search engines

Google Noticias España <http://news.google.es>

Yahoo! España Noticias <http://es.noticias.yahoo.com>

MSN Noticias <http://noticias.es.msn.com>

abastodenoticias.com <http://www.abastodenoticias.com/>

noXtrum noticias <http://www.noxtrum.com/noticias/>

Wasa Live <http://es.wasalive.com/>

Company search engines

Páginas Amarillas <http://www.paginas-amarillas.es>

El corredor <http://www.elcorredor.com>

Blog search engines

Technorati <http://www.technorati.com>

Google blogs <http://blogsearch.google.es>

Patent search engines

Espacenet <http://es.espacenet.com>

United status patent and trademark office
<http://www.uspto.gov/patft/index.html>

Google Patent Search http://www.google.com/advanced_patent_search

Patent Scope <http://www.wipo.int/pctdb/en/>

Content organiser

Google Reader <http://www.google.es/reader>

NewsIsFree <http://www.newsisfree.com>

NewsIsFree <http://www.newsisfree.com>

sindic8 <http://www.syndic8.com>

Feedster <http://www.feedster.com>

Daypop <http://www.daypop.com>

Invisible Web

Complete Planet <http://completeplanet.com>

Direct Search <http://www.freepint.com/gary/direct.htm>

Search Engine Guide <http://www.searchengineguide.com>

Internetinvisible <http://www.internetinvisible.com>

Search agents

MySpiders <http://myspiders.informatics.indiana.edu>

iteseer <http://citeseer.ist.psu.edu>

Copernic Agent <http://www.copernic.com/en/products/agent/index.html>

Agentland <http://www.agentland.com>

BotSpot <http://www.botspot.com>

Infonauta <http://www.infonauta.net>

Web page Monitoring and Adding

Page Update Watcher <http://sourceforge.net/projects/pwatcher>

Easy Bee <http://www.theeasybee.com/>

Search engine alert services

Yahoo Alerts <http://alerts.yahoo.com>

Google Alerts <http://www.google.com/alerts>

Crawler Alert <http://www.crawler-alert.net>

GoogleAlert <http://www.googlealert.com>

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