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## USING THE WEB FOR COMPETITIVE INTELLIGENCE (CI) GATHERING

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### ABSTRACT

Businesses use the Internet as a way to communicate company information as a way of engaging their customers. As the use of the Web for business transactions and advertising grows, so too, does the amount of useful information for practitioners of competitive intelligence (CI). CI is the legal and ethical practice of information gathering about competitors and the marketplace. Information sources like company webpages, online newspapers and news organizations, electronic journal articles and reports, and Internet search engines allow CI practitioners analyze company strengths and weaknesses for their customers. More company and marketplace information than ever is available on the Internet and a lot of it is free. Companies should view the Web not only as a business tool but also as a source of competitive intelligence. In a highly competitive marketplace can any organization afford to ignore information about the other players and customers in that same marketplace?

### WHAT IS COMPETITIVE INTELLIGENCE (CI)

Companies are constantly facing domestic and global competitors, compliancy with new government regulations, and changing customer demands. To stay abreast of all the external influences, companies need a way to track present and future threats. Competitive

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intelligence (CI), sometimes referred to business intelligence or competitive advantage, is a critical component to a company's success because it provides a comprehensive view of an industry's current environment and analysis of future possibilities.

CI is not to be confused with spying or espionage. The latter imply illegal means for obtaining information. As defined by the Society of Competitive Intelligence Professionals (SCIP), CI is a "a continuous process involving the legal and ethical collection of information, analysis that doesn't avoid unwelcome conclusions, and controlled dissemination of actionable intelligence to decision makers." (SCIP website). It is not necessary to resort to covert means find competitive intelligence. Most of the information collected in CI activities is in the public domain. Experts estimate that 95% of the information desired for CI purposes is publicly available (Sharp, 2000).

CI involves a process of collecting, organizing, and transforming competitive information into knowledge and intelligence that can be used for strategic management. (Groom, 2001) Information comes from a variety of sources because the well being of a company is affected by many different external factors. A successful competitive intelligence program not only canvasses, "...information about the competitors, but also information on other environmental trends such as industry trends, legal and regulatory trends, international trends, technology developments, political developments, and economic conditions." (Malhoutra, 1996)

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The significance of the CI filtering process is that it produces actionable information. Michael Sandman of Fuld & Co., explains the role of CI, "Competitive intelligence is information that has been refined enough so that it can be used in making a business decision -- and that, once delivered to the user, the user can do something with it." (Terry, 2001). CI's value is that it is information that has been analyzed by a specialist so that more informed decisions are made. CI can (1) avoid surprises; (2) identify threats and opportunities; (3) gain competitive advantage by decreasing reaction time; (4) improve planning; and (5) improve understanding of one's own company. (Sutton, 1988)

An investment in CI gives companies a competitive edge over others. It is difficult to stay on top of all the changes in an industry and CI can make the difference in keeping pace with the competition. Anne Selgas, director of corporate intelligence for Eastman Kodak, says, "companies that don't use competitive intelligence are running blind." (Nerney, 1998) CI takes the guesswork out of making decisions. CI gives corporate decision-makers the insight and knowledge to make intelligent decisions.

Good decisions translate into financial gains. The former CEO of NutraSweet, Robert Flynn, puts a dollar amount on the savings from utilizing CI. He says that CI was "worth up to \$50 million per year" to his company." (Nerney, 1998) CI not only helps in making better decisions, it can increase the revenue of companies.

According to Jan Norman, eighty-five percent of the Fortune 500 companies have CI divisions. Some call it strategic planning, while others prefer the terms "research" or "market analysis" (Norman, 1999). Despite this high percentage of CI programs, their effectiveness is questionable. Jan Herring, who established CI divisions at Motorola in the eighties, estimates that only 5 to 10 percent of corporations are making effective use of CI. He says that top management must support and use CI. Smaller corporations do a better job of CI because CI professionals have more access to the decision makers. (Norman, 1999)

Companies implement CI programs in various ways. Some have informal CI processes in which one person in the organization is designated the CI professional on top of his or her other duties. Information is collected on an ad hoc basis, depending upon projects and requests. While helpful, informal CI is not as effective as more formal approaches. It is an activity that should be done routinely because significant events (mergers, take-overs, etc.) may be missed. The real benefit of CI comes from more systematic approaches in which CI is considered a core competency of a company. Trained CI professionals, funding, and management support are crucial to the success of a CI operation. Those companies that make an investment in a formal CI programs and align CI programs with its strategic planning derive the greatest benefit from CI. (Dashman, 1998)

Informal or formal, CI is not a new concept or practice. It has been around as long as there have been business rivalries. The difference in the way CI is done now, compared to times past, is the way the Internet and web-based technologies are used. The advent of the Internet has upped the ante in the competitive playing field. Now small companies can compete with larger companies by using the Internet to find CI.

#### THE INTERNET AND COMPETITIVE INTELLIGENCE (CI)

The Internet has transformed the way companies do business. Web technologies allow companies to differentiate the kinds of information and services available to their employees and those designed for their customers. Intranets provide the means for employee to exchange and access sensitive information without jeopardizing company security. Within these intranets, employees use the same set of web-enabled tools like e-mail and collaborative project software to improve communication flow and productivity.

Customers have a different view of the company via company websites. Websites provide access to company news, product lines, online ordering and help. It is an

effective marketing tool in the booming e-business environment. The significance of companies deploying Internet tools and services is that companies have more control over internal processes through standardizing corporate infrastructure, and additionally, improving the way information is communicated externally to customers.

CI enters the picture as an internal company process that influences decision-making and strategic planning, ultimately impacting company performance and customer perception. For example, if a CI analysis reveals that Airline A is offering airline tickets at a lower fare than Airline B, then Airline B can adjust prices to be more competitive and attract customers looking for the best deal. The kinds of resources used for CI and the way the information is analyzed can be greatly enhanced using the Internet and Internet-based tools.

The Internet in and of itself is a great reservoir of information. Many of the resources that CI professionals use to collect information are available on the Internet. It takes skill and expertise to wade through the vast amounts of information to make sense of it. Some tools take some of the burden of filtering the vast amount of information into useful data.

### CI INTERNET SOURCES

The following are examples of free and fee-based Internet resources. These examples are provided for information purposes only, not as an endorsement of products and services. They are used in this article to illustrate the variety of Internet-based resources that can be used for CI.

#### Free information

There is an incredible and overwhelming amount of free information the web. How one formulates searches using an Internet search engines is important. Simple searches using only the company name may retrieve too many records. Being specific helps refine searches to be more exact. It is useful to do an advanced search by combining a company name with terms

like "contract," "customer," "project," "alliance," "ally," "partner," "joint venture," or "distributor." (Kassler, 1999) The objective is to cut down on the number of irrelevant hits and save time by finding only those records of interest to the search request.

Newsletters, newspapers and news organizations, promotional information, trade shows, and conferences, company websites, and government sites are all sources of no-cost information. These sites can provide a view of a company that would not be presented in a magazine article. For example, CI professionals report that they have gleaned critical information from local newspapers. Company executives tend to let their guard down and reveal more information for a local interest story then they would for a journal article or national newspaper. (Kassler, 1999)

Listservs and chatrooms are valuable sources of company and customer data. Discussion groups cover the gamut of interests from investors to car aficionados and what people say in these virtual spaces can be relevant to companies. Employees venting about their work may reveal the strategic direction of their company. Customers may complain about the service they received from a certain company and the quality of the product. These sites can be monitored for relevant information.

#### *Catalist*

(<http://www.lsoft.com/lists/listref.html>), is a site that has cataloged all the public LISTSERV® lists on the Internet. Search by name, host name, and title for a list of interest.

The government is the largest producer of free information in the U.S. Firstgov (<http://www.firstgov.gov/>) is the official government portal to government information, services, and online transactions. Its search engine searches across all government websites, making it easier to find government information.

Some sites of particular interest to companies are given. Company financial data can be obtained via the U.S. Securities and Exchange Commission website (<http://www.sec.gov/>). Information on patents and trademarks is available from the U.S. Patent and Trademark Office website (<http://www.uspto.gov/>).

Congressional legislation and proceedings dating back to the 1700's can be found at the Library of Congress' Thomas site (<http://thomas.loc.gov>). Scientific and technical research information is available from the following government agency websites: Defense Technical Information Center (<http://www.dtic.mil/>); Department of Energy's (DOE) Science and Technology Information and Resources (<http://www.osti.gov/>); and the National Aeronautical and Space Administration Scientific and Technical Information Program (<http://www.sti.nasa.gov/>).

### Fee Products and Services

Free information may be wonderful resource, however, it is time-consuming and costly to filter out the good from the bad information. Fee based services can reduce search time and provide hard-to-find information. Other advantage of using fee services is that they provide information that can be authenticated. The problem with a general search on the web is the integrity of the information. There are many sites with misleading and false information. Fee bases services usually provide data that has come from reliable and verifiable sources. Part of the cost of the subscription service is that subscribers are paying for quality information not just the quantity of information.

Company profiles and financial information are available from the Hoover's Online service (<http://www.hoovers.com/>). Hoover's subscription service includes coverage of 12 million public and private companies from over 300 industries. The site provides basic company information for free, its subscription service providing more in-depth profiles.

Online database providers are a good place to go for a comprehensive view of multiple industries and subject sources. Two vendors mentioned by CI professionals as valuable resources are Lexis-Nexis™ (<http://www.lexis-nexis.com/>), and the Dialog Corporation™ (<http://www.dialog.com/>). Lexis-Nexis, a division of Reed Elsevier, Inc., offers online databases covering legal information, news sources, company and financial information, and public records. The Dialog

Corporation™ suite of web-based products provides access to business, engineering, medical, news, and technology information.

Software packages can aid in the analysis of CI. Competitive Merchandising Platform™ (<http://www.rivalwatch.com/index.html>) is a web-enabled product from RivalWatch, Inc., based in Santa Clara, CA. It is a search engine that targets CI on price, product mix, and promotions and provides client reports on this information. Another web-enabled product is WebQL™. WebQL (<http://www.webql.com/>) is a web-harvesting tool developed by Caesius Software Inc., a company based in Seattle, WA. WebQL is a search engine that uses key words to search across the Internet to "pinpoint and extract" useful information to use in reports or applications. (Casesius White Paper on WebQL)

### CONCLUSION

CI is an investment of time, infrastructure, and staff, however the potential payoff is immense. Day-to-day decisions and long-term strategic planning are no longer based on guesswork but on factual and intelligent information. External variables such as legislation, mergers, and global events influence the way companies do business. Without some kind of formalized process in place to collect and analysis these external factors, companies are making decisions in the dark. CI sheds light on areas crucial to company interests.

The CI process results in actionable information. Some decision can be made as a result of CI. The process involves collecting, analyzing, and disseminating information to the right people in the organization. CI professionals rely on a number of different sources for the information they gather. Their CI collecting activities include interviews, reading articles and newspapers, and searching specialized databases for information.

The Internet and its complementary web-based technologies facilitate the task of CI gathering but also provide a challenge. The Internet is rich in content but poor in organization. CI professionals have to

develop expertise in finding the most relevant sources in an expedient way. Valuable information can come from company and news websites. The downside is that although the information is "free," the staff time and IT investment to collect and analyze it is not. One of the advantages of using fee-based services is that a wide array of information is consolidated and easily searchable. Time and data quality are other considerations in determining free versus for fee services. The downside of fee services and products is their cost. CI professionals rely on a combination of both free and fee based services to handle CI requests.

Time and money are always the drivers for company investments. CI takes time to do and it is not free. The question is whether or not it is worth it to companies to invest in a knowledge process like CI or hope the decision makers know what they need in order to make an informed decision. If companies want to remain competitive and forward-looking, they need to implement a CI program. Companies need intelligence to remain competitive in the industry they are involved in.

#### REFERENCES

1. Caesius Software, Inc. "Harvesting the Web...for business Intelligence and Enterprise Application Integration," Whitepaper.  
<http://www.webql.com/whitepaper.html>. Accessed 10/28/2001.
2. Dashman, Lisabeth G. "The Value of an In-House Competitive Intelligence Department: A Business Plan Approach," *Competitive Intelligence Review*, v.9(2), pp.10-16, 1998.
3. Groom, Jeremy R. and Fred R. David. "Competitive Intelligence Activity Among Small Firms." *SAM Advanced Management Journal*, v.66(1), pp.12-20, 2001.
4. Kassler, Helene. "Competitive Intelligence on the Web," *Econtent*, v.22(4), pp.16-24, 1999.
5. Malhoutra, Yogesh. (1996). *Competitive Intelligence Programs: An Overview* [WWW document], @BRINT Research Institute ([www.brint.com](http://www.brint.com)).  
<http://www.brint.com/papers/ciover.htm>. Accessed 9/7/01.
6. Nerney, Chris. "The competitive intelligence edge," *Network World*, v.15(45), p.42, 1998.
7. Norman, Jan. "Knowledge is Power Competitive Intelligence or Legal Information Gathering Gives Companies a Strategic Edge over Rivals." *The Orange County Register*. 6/14/99. Cited from Bits 'N Bytes: Competitive Intelligence.  
<http://www.otterbein.edu/home/fac/brcbbl/general/bitsnbytes/comintel.html>. Accessed 9/7/01.
8. Sharp, Seena. "Truth or consequences: 10 myths that cripple competitive intelligence." *Competitive Intelligence Magazine*, v.3(1), pp.37-40, 2000.
9. Society of Competitive Intelligence Professionals <http://www.scip.org/>
10. Sutton, H. (1988). *Competitive Intelligence*. New York: The Conference Board. As quoted in Dashman, L.G. "The Value of an In-house Competitive Intelligence Department: A Business Plan." *Competitive Intelligence Review*, v.9(2), pp.10-16, 1998.
11. Terry, Ana Arias. "SCIP 2001 Annual Conference." *Information Today*, v.18(5), pp.27-29, 2001.
12. Wayner, Peter. "i Spy," *Computerworld*, v.35(6), pp.60-61, 2001.