

Thoughts On How to Use the Internet to Conduct Competing Intelligence Research

By Long Songzhen and Wang Cui, PLA General Staff Department Military Training Dept.

The Chinese Defense Science and Technology Information Monthly

Issue 122, the 6th Issue of 1998

1. Competing Intelligence and the Internet:

Compared to traditional intelligence analysis, competing intelligence has characteristics such as hostility, timeliness and of a commercial nature. On a specific operational level, the speed with which we obtain information, and how soon the impact of the intelligence we provide can be realized are key to making intelligence valuable and effective. The Internet, which is based on electronic databases and modern communications networks, serves just that purpose of fast delivery and intelligence utilization. This nature of the Internet has made it inevitable that it would be used by competing intelligence to obtain, deliver and process information.

The Internet is the collective entity of all the world's computer networks, also known as "the network of all networks." The America's largest 500 companies are the biggest users of the Internet. Many medium- and small-sized enterprises have also joined the Internet to become its users. The commercialization of the Internet indicates that it will soon become an important means of trade. The popularization and commercialization of the Internet have made it possible for intelligence agencies to use the Internet to collect information related to commercial and trade activities, to conduct analysis on competing intelligence, to fully utilize the rich resources and technological advantages brought out by the Internet and transfer these rich resources and technological advantages into advantageous positions for our enterprises to compete.

2. The Internet's Supporting Role in Competing Intelligence Analysis:

2.1 Supplier of Information Resources:

The Internet provides effective support for collecting competing intelligence through its rich resources and fast searching speed.

Almost all the sources of competing intelligence are open sources. According to a survey of 175 intelligence agents conducted by Gordon, 95% of the information these agents obtained came from open publications such as newspapers, journals, governmental reports, databases, conference proceedings, etc. Most of these publications are appearing the Internet and can be searched.

The major sources of information for competing intelligence include the following:

a. Databases on computer networks.

Generally speaking, computer networks' databases provide more databases to choose from. They cover wide areas of topics, and the data index is highly developed, with many entrances to search and better user search interfaces. It has become a very valuable source for competing intelligence.

b. The networked catalogues of the public library system;

c. The websites of social service agencies and public information;

d. The websites of corporations and enterprises.

From various news groups we can find out various products' specifications and commercial functions; we can also obtain information worldwide about the projects we are working on ourselves.

2.2 The Internet's fast search as a supporting function:

The timeliness of competing intelligence is the key to the value of the endeavor. Fully taking advantage of the modern telecommunications technology and digital information technology, the Internet provides users with fast searching tools, tremendously shortening the time spent on collecting competing intelligence.

The information resources mainly reside in World Wide Web (WWW) system, Gopher system and FTP system. By different areas (WWW, Gopher, FTP etc.), we can classify the searching tools into the following categories:

a. The search engine to be used to search the World Wide Web.

The search engine is an automatic searching tool. It's the most studied, fastest growing tool. It occupies overwhelming share of the online searching tools. Search engines are mainly used to search for information on WWW. But with Gopher, FTP and WWW gradually integrated into each other, many search engines have expanded their search areas to include territories of Gopher and FTP systems. At present, the more popular ones include: Yahoo, which is a WWW-based search engine; Excite, which is used to search WWW and USENET; Infoseek, which is also WWW-based; GoYoYo and Chinaol, which are WWW-based Chinese search engines. These search engines are all interwoven, capable of providing categorized browsing and keyword search.

b. Veronica is used to search Gopher cyberspace:

Veronica is a search tool specifically designed to search Gopher cyberspace through indexes. Unlike other search engines, Veronica uses the menu format to organize information (sub-menu, table of contents, documentations, etc) and guides the users to search through interactive methods.

c. Archie is used to search FTP cyberspace:

Archie is a search tool that uses title matching to automatically search for information. All the documents that go through the FTP cyberspace can be searched through Archie.

2.3. Two-way flow of information on the Internet:

The Internet's interactiveness can play the following roles in collecting and analyzing competing intelligence:

In the collecting phase:

With the interactiveness of the Internet you can use various kinds of interactive tools, such as E-mail, BBS and Newsgroups to communicate with your competitors, suppliers and product customers, thus obtaining information on the strengths and shortcomings of your competitors, the direction of future trends, suggestions and recommendations of the customers on the products, etc; it also allows us to discover potential customers through public communications systems and information bulletins; it lets us better understand the differences amongst various manufacturers, market conditions and market demands through monitoring certain newsgroups.;

In the interpretation phase:

It allows us to use E-mail and newsgroups to ask concerned experts, scholars or customers for solutions to special issues and technical bottleneck problems.

In the delivery phase:

It allows us to deliver or publish our analysis results through FTP, Email and WWW.

2.4. Information Dissemination Capability

The finished products of competing intelligence are mobile, integrated, and interactive digitized products. This type of product requires different delivery modes. In light of this, the main method of delivery in competing intelligence operations is World Wide Web (WWW). This method has the following strong points:

- a. The non-textual nature of the documents conforms to the "diffusive" nature of our competing intelligence customers' way of thinking;
- b. Multimedia integration of the information helps synchronize the mobile and multi-dimensional nature of the competing intelligence;
- c. It can satisfy customers' needs to search for information on various layers.

When applying the Internet in competing intelligence operations, we must not only fully utilize the existing functions, but also further develop the Internet with our intelligence agencies' advantage in research and analysis. We can thus make our information service more competitive. To do this, we may consider the following:

- (1) Information organization and Sequencing:

Information organization and sequencing means that we organize the information we obtain through various methods into sequential order and make it organized so that we can utilize it easily when we strive to provide intelligence analyses. To accomplish this, a main task is to establish a guide database as a competing intelligence resource. This guide database will contain massive raw data gathered from global Internet system.

The guide database includes three parts: a large number of URL addresses that contain competing intelligence; a large amount of raw information, including frequently visited sites and their original data; and a set of information organization systems and user search mechanisms. Information organization and sequencing is mainly concerned with the latter two parts.

a. The method of information organization:

We can build a topical tree with the different types of information we have collected, combined with some raw non-processed information. A topical tree is a digital graph. It contains different branches of a tree with different topics. Users can find needed information through browsing the topical tree. Currently, many guide databases adopt this method.

b. The Search mechanism:

In order to make it convenient for users to use the “competing intelligence resources net,” we can establish a search engine specifically designed for it. This is a software program. Through searching the software, the user can search the “competing intelligence resources net” and find the results in HTML format.

(2). Information Analysis

This part is about designing new software for Internet information analyses. It can be used on single computers, with more sophisticated categorizing, calculating, graphic (chart), and assessment functions. This is a higher phase of the intelligence operations dealing with competing strategies and enterprise’s planning. It can involve the following aspects:

- a. Trend analysis of the field;
- b. Monitoring and analysis of the competitor;
- c. Forecast of the field’s development
- d. Analysis on counter-actions against the competitors.

3. The Key Technologies of the Internet-based Competing Intelligence Analysis

First is the automatic browsing technology. It is also known as auto-grabbing technology. To establish a guidance database system, we must obtain large numbers of URL sites and search them. We can search them manually. But the information is so mobile and uncertain, it will not be efficient if we do it by hand. Therefore in the long run, we must have an automatic technology to search and download what we need automatically. Currently, people are using many popular search programs such as automated robot, Wander and Spider.

Second is the information organizing and searching technology. In our guide system which contains huge amount of raw information, there are many formats in which information is stored. We should develop digitized conversion software to convert these formats into HTML and put them online. In this organizing process, we also need new technologies to automatically identify, index, and translate information. In addition, we must also have a set of HTML-based searching technologies. This type of technology will list the results of the search according to the closeness to the searching demands.

In addition to the above-mentioned key technologies in building a guide database, we must also research and develop support systems of artificial intelligence-based decision-making software. This type of software concerns the deciphering of natural languages, artificial intelligence, knowledge expression, knowledge reasoning, mechanical learning, model database management, and computer imitation, etc. This is yet another new field in competing intelligence analysis.

{ HYPERLINK <http://210.79.226.16:81/cetin2/qk/gfxx/xx1998/xx980622.htm> }