An Exploratory Discuss of New Ways for Competitive Intelligence on WEB2.0

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Abstract. Competitive Intelligence (CI) plays an increasingly important role in the strategic management and decision-making of enterprises. Adequate and timely information is the necessity of CI which makes the gathering information very import activities in CI. Web2.0 introduced many new types of applications for users to express their thoughts easily and quickly. In the view of CI, Web2.0 paved new ways and channels for gathering information. This article surveys the applications of Web2.0 relative to CI, and explores approaches of gathering information for CI through Web2.0. Four of applications of Web2.0 (Blog, Wiki, SNS, and RSS) are discussed for CI use in detail.

1 Introduction

Since the end of the Cold War, Competitive Intelligence (CI) once widely used in the military has rapidly infiltrated in business competition. According to statistics, in the top 500 enterprises of the world, over 90% of the enterprises have established CI systems, and the fast development speed exceeding the other business sectors, shows a strong vitality and vigorous development momentum. The quality and effectiveness of CI work has maintained close relations with the data collection. Information gathering is the basis and key of CI, therefore, whether or not to collect adequate valuable information determines the success or failure of CI. Elie Zakaria Cagliari Secretary, the senior intelligence analyst of U.S., has pointed out: 95% of the intelligence material from the public, 4% from the semi-public material, only 1% or less from the confidential material [1]. Network information on Internet is also important to public resources, so it is one of the main tasks for CI to collect information from the network.

Now, the new applications of Web2.0 provide new opportunities and channels for CI. Such as the liveliness Web Blogs (blog) which are created by thousands upon thousands individuals, the Wikipedia (wiki) which allow public jointly creating, the technology of RSS which using XML to classify and organize the information, makes the network information more clarity, and etc. All of them bring convenience for CI especially in collecting information. So researching the gathering strategy CI under the new environment is necessary

and meaningful. Based on the analysis of the domestic and international researches on CI and Web2.0 study, we summed up some new approaches of gathering information for CI under the new environment. It is hoped that it is useful to the company engaged in a CI; meanwhile, it is also wished that more and more to study how to gather CI better in the environment of Web2.0.

2   Research Situation

From the essays the domestic and abroad scholars' works, there are many articles on the study of Web2.0 and CI gathering, but the study of combining the two is few. Through analysis, the key elements are as follows.

2.1   Web2.0

Web 2.0 is first raised by O'Reilly, the president and CEO of O'Reilly's media Company. He pointed that the important principle of Web2.0 is: The more users, the better the service. But the fact is that, at present, the IT sector did not reach a consensus for the right Web2.0 definition.

Some people say that WEB2.0 is the collective appellation of the new Internet applications against WEB1.0 and a revolution of application from the core content to the external application. It is a change from simply browse HTML pages through browser (Web1.0 mode) to being of a more enriched content, stronger interactive connectivity and more powerful tool (Web2.0 mode), which has become the new development trend of Internet [2]. Zhudeli[3] pointed out that the change from WEB1.0 to WEB2.0, specifically, is from simply "reading" to "write" and "jointly build" development on the model.

China Internet Association gave Web2.0 a definition: "Web2.0 is a concept of the Internet and the ideological system's upgrade, changed from the top-down Internet system which were concentrated controlled by the few resource holders into the bottom-up Internet-driven system leaded by the general Users wisdom and strength" [5].

In short, the summaries of Web2.0 concept are endless, but the essence of Web2.0 they all embodying is the same, that is, the public network will tap into the Internet resources in construction through a variety of technologies and services. Information is no longer a single expert, or the government and other authoritative bodies. Any person, as long as he has thinking, wanting disseminate information on the Internet, can own a piece of the sky on the Internet. Therefore, Web2.0 has its unique features: personality emphasized users' demand, interaction reflected the users' participation, information based on micro-content.

2.2 The main services of Web2.0

2.2.1 Blog
The most common definition of blog is that blog is a web log which can express one's thoughts, whose contents display according to chronological account, and updates constantly [5]. The ideas can quickly be issued on the blog, exchanging with others and engaging in other activities can be also conducted on the blog. All this is free, what's more, it is easy to operate, not needing professionals. As long as they are able to type, the people can speak freely on the blog.

Shin-ichi Todorlki, Tomoya Konishi. Satoru Inoue point out that [6], the blog has the following functional characteristics:

(1) The contents are ordered by the chronological;

(2) The users need the date, theme and keywords to arrange the special content;

(3) Registering new editorial content, including images, multimedia and linking to other resources, such as the past blog contents, website, the machine data files, remote databases and so on;

(4) All of these functions are achieved through the Web browser without the additional knowledge.

It is thought that the blog represents "the media version 3.0": The old media → new media → we media. So the research on the blog and the media will be more.

Huang Peng [7]: comparing to the other network communication tools, the blog's advantages is not only of a distinctive personal nature, he also has public nature that the media must have because of the face-to-face dissemination way.

Wu Xiaoming [8] pointed out that blog also has grass-roots nature, becoming an important source of news media; blog is of the property of removing center and sharing value; blog news is not subject to various political, economic and cultural taboos, often creating sensational news, as a supplement and innovation of the traditional news media.

There are many other aspects on blog. For example, Lance V.Porter, Kaye D.Sweetser Trammell and Deborah Chung, Kim pointed out that the persons who frequently use blog are prone to own rights in their company. The rights include structure rights, experts rights, priority rights, etc.. [9]; Kaye D.Trammel [10] even research on the mutual slander between Kerry and Bush on blog during the election campaign. Visibility, at this stage, the public relations impact and the interpersonal impact blog plays on is so large.

2.2.2 Wiki

Wiki site can be shared and maintained by many people, and everyone can express their views or expanse and explore the common theme. Many scholars believe that wiki has the following characteristics:(1)Easy to use, mainly in the fast maintenance, simple format, and convenient link and looked naming;(2)Organized, mainly in the function of self-organization and the effectiveness clustering;(3)Growth characteristics, mainly in that the link goals reflected in the pages have not yet exist; pages can be created through clicking on the link, which makes the system grew; and the various versions of pages can be access the revision history of pages;(4)Open, the community members can arbitrarily create, modify, delete pages and page changes of the system can be observed by visitors.

Wiki has been the best platform for academic exchanges and enterprises interpersonal communication. ZHU Chunlei [11] thought that, as wiki's openness, quickness, direct nature and storage, as well as correcting residual timely nature on the information dissemination, it is better than the other forms of communication in the aspects of key information accuracy and completeness.

As Google's founders Lari Pec said: "the convenience painted and alerted changes on wiki are much fitted for staff exchanges in the modern management system. Wiki can break the internal layers' barriers, making those managers, who rely on repressive measures to conduct management, inundated by the groups' command." Obviously, wiki site provides the internal staff for a reliable

and practical exchange platform, strengthening the exchanges and knowledge and views sharing between the staffs.

2.2.3 SNS

The theoretical basis of SNS is the Six Separation Theory which founded by the Harvard University psychology professor Stanley Milgram in 1967, "interval persons between you and any strangers are no more than six." In other words, you will be able to recognize any strangers through less than six individuals. According to Six Separation Theory, each individual's social circles will continue to enlarge through SNS, and finally become a major social network [12]. SNS is a member of Web2.0, the abbreviation of Social Networking Service, services through providing the digital Internet to imitate the reality physical network of social, making the network more social, linking with the real world more easily. SNS provides to each person the opportunities to establish their own associations of friends. We all can use SNS establish our own societies, bringing together like-minded friends. The interpersonal networks will be broader than the real world through SNS.

2.2.4 RSS

RSS is the abbreviation of "RDF (Resource Description Framework) Site Summary ", "rich site summary ". It adopts the simple XML format, realizing contents sharing and polymerization among sites. It is a technology platform which lets publishers provide the fragment piecemeal content to the third parties and thereby makes the individual sites or individuals able to collect various materials to a single page; it is a technology that the web sites send the messages to the users' desktop directly. Users can subscribe to their interested contents by RSS. When the web content updates, users can also read the titles and summaries of the new information, and read the transcript [13].

The reader supports the web contents output from RSS without open the web site content pages, greatly saving time. For users, RSS is a subscription mechanism, as subscribe to the newspapers, magazines. Through this subscription mechanism, you can subscribe to any favorite content such as portal news, blog, forums and other articles. While for the content providers, RSS is technology that can send the latest new of the designated site to users directly. In a short RSS makes the content providers and users mutually beneficial.

2.3 The Gathering Information for CI

There are two information sources, one is public and the other is non-public.Wang Yu [14] explored the collection of enterprise CI under the network environment and thought that we can use the patent, search tools, professional institute's sites, Professional databases and the logged data of Internet site.

Yang Guirong [15] also researched on it and raised several principles about gathering data on network environment for CI, that are the bottom line, the maximum, minimum, average; Meanwhile, They also put forward strategy using network to collect the rivals' information.

The research on the gathering CI in environment Web2.0 is little. The research is just separately study the Web2.0 or collection of CI. However, Yang Guirong and other scholars (mentioned above) had referred to often visiting the BBS forum, it will be surprises, which has reflected the thinking of been CI gathering in Web2.0 environment. Michael Chau and Jennifer Xu [16] have also

studied Blog Mining and researched the network hatred organizations and the relationship between them, with a very good Blog Network Information Mining thinking.

3. The New Channels for CI on Web2.0

3.1 Through the Blog

As blog is a good platform for expressing self-feelings and views, consequentially, we can mine vast amounts of information for our CI from blog. For example, employees who have a pleasant mood because of promotion will write their own experience how to fight for the promotion opportunities. We will be able to know which kinds of talents the company focuses, and then analyze the important development points, core products and other details through their blogs.

As mentioned above, many academics proved blog as a function of the new media, being added to the traditional media or even the prosperity of traditional news media reports. January 18th, 1998, Mart Dradge issued President Bill Clinton's sex scandal, becoming the first man to report the matter in the world. And the following half year, it leads the American public opinion, the traditional media are being followed up.

Generally, enterprises' CI is difficult to meet the objects of truth, fastness and actability, if it is only based on literature resources. It must need a substantial the "virtual soft" information [17]. Many astute entrepreneurs have the instinct catching "virtual soft" information early. Please look at the story of a few hundred years ago Napoleonic period, the European banker took close attention to the Napoleon-British war progress, for which he layout a thorough intelligence network. When Napoleon who swept across the entire Europe was defeated by Wellington Duke at British Waterloo, the intelligencer of Nafeimo used the intelligence carrier pigeon -- the equivalent of today's e-mail, and promptly notified the bank headquarters, then Nafeimo soled the stock and bonds timely. When the news that Napoleon was defeated reached Europe, as a "real tough" message, stocks and bonds nosedived. Since Nafeimo use the "virtual soft" information to decide timely, his bank made a big profit. Visibly, "virtual soft" plays an important role in CI, therefore, companies need to take advantage of new technologies to capture the "virtual soft" information. The blog news of Web2.0environmental is the very important channel of "virtual soft" information. Using a blog to acquire CI plays a very important role in the companies' strategic decision-making.

3.2 Through the Wiki

Wiki is a collaborative writing system, such a system most suitable to encyclopedias, knowledge base. Wiki technology has well been used in encyclopedias, manuals/FAQ prepared, subject knowledge base. Editing on the wiki, if there is a mistake, the persons who land to the wiki system later will prompt revision thus ensuring the knowledge's validity and accuracy. It is precisely because Wiki system provides everyone platform to display one's self-caliber that knowledge is enable to pooled into enormous knowledge base

rapidly. It can save a lot of time to identify the needed information and knowledge on Wiki system, moreover, the information can be also more comprehensive.

In an experiment, we captured Microsoft's specific information from wiki. In the Wikipedia system, the keyword "Microsoft" is typed into the "Tieba". In a very short period of time, Microsoft's specific situation immediately appeared before my face; including Microsoft's development history, famous persons and the other Microsoft details including the pictures that someone went to Microsoft to conduct an inspection, and so on. At this point, if your company is in need of going to investigate in the competitive company, it is able to search their information in the simple way of using Wiki system; meanwhile you can save a lot of investigating expenses. Why not use this method to collect CI? Isn't it saving labors and money? And why should use the Wiki systems other than use the search engines directly to conduct the same operation? Main reasons are: first, search engine is not so successfully in relevance match. Although the matching results showed on the browser are many, the results of real value are just a few pages before. It is not always successful each time searching. While Wiki sites are of a higher degree of relevance, so some irrelevant information has been excluded when matching, and easier to search; Secondly, the another advantage of wiki is that because of many editors' editing and updating, the integrity and authority of the information are their goals, so it can ensure the information accuracy to some extent.

3.3 Through the SNS

In order to obtain competitor's information, Enterprises commonly let its staffs establish links with the staff of competitors, such as being the members of the same club, being the members of a society, being neighbors each other and so on, accessing to the competitor's information inadvertently in the exchanges of each other. But it does have some limitations. For example, the company and his competitors are not in the same city or region, so there is no way to obtain information through interpersonal contacts. However the majority competitors are not at the region.

In the Web2.0 environment, SNS breakthrough this bottleneck, making persons at different areas is also able to establish good interpersonal relationship. Through previous research and analysis, SNS contribute to the links between the virtual world and physical world, and to enable the interpersonal relationships more wide. Therefore, we can use SNS to achieve interpersonal networks that unable to achieve through the physical world, letting the staffs and the competitors' staffs to establish good interpersonal relationships, access to key information of competitors within mutual exchanges, as competitors recent strategic plan, development objectives, product research goals and development orientation of the company which are very valuable information. According to Six Separation Theory, through SNS, we can almost establish good relationships with every competitors' staffs. Thereby, we expand the scope comparing to traditional methods, and improve success rate of gaining CI from the staffs of competitors.

3.4 Through the RSS

For users, RSS is a subscription mechanism as subscribing to newspapers, magazines. Through this subscription mechanism, you can subscribe to any favorite content. For example: Portal news blog, forums and other articles. Due to the complex and confusion of network information, we spend a great deal of time to collect information and but often the information gathered is worthless. What makes us have a headache is that numbers of information providers will take the initiative to push the information without much significance to us to our desktop. Now we use RSS to subscribe to the information we need, and those messages we do not need will no longer be on the browser, lessening the burden of filtering information. For CI workers, they can subscribe to industry news, the development of the industry dynamic information blogs of competitors, the competitors' product advertisements through RSS. As long as there is the latest news, RSS readers will be quick to push these messages to the CI workers' desktop, thereby reducing the time cost of their using search engines to search and filter information, and also reducing a lot of useless information's interference, so CI workers more efficiently.

4 Summaries

CI gathering is not only the foundation of CI, but also the basis of strategic decisions for enterprises. CI gathering in the new network environment opens up a new path for CI work, also develops a new sky for CI research. Web2.0 provides rich application forms, and a convenient way for expressing ideas and the dissemination of information, as well as new channels for CI gathering. The four application forms blog, wiki, SNS, RSS can be used directly in CI gathering.

Of course, there are inherent shortcomings of Web2.0 such as the data random, the diverse expression, changes irregularity, so data mining, analysis of the valuable intelligence from them is the theme of the next step. Meanwhile, Web2.0 also raised another issue, that it provides new ways and means in the gathering intelligence, at the same time; it also brings new difficulties to implement the anti-CI. How to prevent the leakage of information, and how to strengthen the enterprise staffs' binding is also one of the themes following up. It is hoped that there will be more academics attention and research in this field.

Acknowledgments

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