

Library Science Education and Competitive Intelligence in the United States

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ABSTRACT

In this paper we discuss what Competitive Intelligence means, why it is growing in importance in the business world and how Library and Information Science Schools in the United States are responding to the opportunities presented by Competitive Intelligence. As a conclusion, we discuss some of the implications of our findings for Library and Information Science education in Korea.

Key Words: Competitive Intelligence, Library and Information Science Education, Special Libraries, Globalization, Future of Librarianship, Information Professionals Training

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1. Introduction

The advent of the Internet, the growing importance of information and knowledge in the processes of economic activity have affected the ways Library and Information Science (LIS) Schools in the United States educate their students. While their role in training the next generation of information professionals to serve in public libraries, academic libraries and special libraries, such as corporate, legal and medical libraries, remains largely intact, they have started to educate students for new areas as well. One of the newer areas is that of Competitive Intelligence (CI).

The emergence of this new area of education for Library and Information Science Schools is a result of Library Schools wanting to train Information Professionals that can work in new types of jobs and are able to contribute to the production, organization and diffusion of information in a knowledge-based economy. Information technologies, such as the increasing use of the Internet for businesses, are transforming many areas of human activity and Library and Information Science Schools in the United States want to remain at the cutting edge of these transformations. Thus, as we discuss further in this paper, several LIS Schools have started courses and/or full programs in Competitive Intelligence, Knowledge Management, Medical Informatics, Bioinformatics and other areas with a high level of analytic and technological content.

In this paper we focus on the area of Competitive Intelligence. We describe what it means, the importance of ethics in its practice and how some Library and Information Science Schools in the United States are developing programs in CI. We conclude our paper by discussing the implications of these developments for LIS education in Korea in the context of the global economy being increasingly driven by sophisticated information organization and diffusion.

2. What is Competitive Intelligence?

There are many definitions of what constitutes CI, but the one we would like to refer to for the purpose of this article is stated by the Society for Competitive

Intelligence Professionals or SCIP in their website. They write that Competitive Intelligence is a systematic and ethical program for gathering, analyzing, and managing external information that can affect your company's plans, decisions, and operations .

Put another way, CI is the process of enhancing marketplace competitiveness through a greater - yet unequivocally ethical - understanding of a firm's competitors and the competitive environment.

Specifically, it is the legal collection and analysis of information regarding the capabilities, vulnerabilities, and intentions of business competitors, conducted by using information databases and other "open sources" and through ethical inquiry (<http://www.scip.org/ci/>, downloaded April 21, 2002).

It has becoming increasingly clear that Competitive Intelligence makes a difference in the economic success of company. A recent study by the American consulting firm PricewaterhouseCoopers (PwC) states that companies whose senior management rated competitor intelligence as very or critically important were growing at a 20% higher rate than those companies whose managers did not rate CI as important. The study, which is quoted in the SCIP website can be found in March issue of the PwC's Trendsetter at their website, [Table 1. Resources about Competitive Intelligence](http://www.barometer-</p></div><div data-bbox=)

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- Overview of Competitive Intelligence
<http://www.scip.org/Library/overview.pdf>
 - What is Competitive Intelligence?
<http://www.fuld.com/whatCI.html>
 - SCIP
<http://www.scip.org/>
 - Case Studies in High Technology Areas
<http://www.factiva.com/CIcenter/articles/apr02case.asp?node=sub-menu1-title0-link2>
 - CI Learning Tools
<http://www.fuld.com/ciStrategiesResources.html>
 - Article Comparing Ethical Approaches to CI in the United States and Europe
<http://www.fuld.com/PDF/EthicalandLegalIntelligenceGathering.html>
 - Competitive Intelligence Sources on the Internet
<http://web.syr.edu/~jryan/infopro/intell.html>
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surveys.com/pr/tb020327.html(downloaded April 21, 2002). Market and competitive information is becoming an increasingly crucial element in competitive advantage for companies. While there are complex issues connected to how CI functions within an organization and where to locate the CI function within organizations, it is clear that the complexity of today's economic environment calls for greater amount of information and knowledge presented in a timely and cogent manner to senior managers (Martins, 2001).

3. The growth of Competitive Intelligence

The last ten years or so has seen a marked increase in the number of companies that set up CI research efforts and the practitioners both within companies and as members of consulting firms. There are several reasons that can account for this surge of interest in CI. The emergence of new technologies, such as digitization of information and large informational structures, such as the World Wide Web, have opened up many areas of businesses to a much larger number of potential competitors. Book retailing, for example, has been profoundly changed by the advent of the Internet and the emergence of powerful competitors, such as Amazon.com, that didn't exist only a few years ago. Businesses in many areas of economic activity are now aware of the potential for surprise in the competitive arena.

An ongoing monitoring of the marketplace, in order to spot new business opportunities and avoid sudden competitive surprises, has led to the pursuit of Competitive Intelligence by many businesses.

Other large trends, such as globalization of production and consumption has led to the need of learning about new markets, as national firms become global or at least sell on a global level, and the need to protect market share against previously unknown or unimportant competitors.

Last, but not least, is the powerful emergence of information and knowledge as central elements of economic activity. The rise of biotechnology, materials sciences, information technologies and other forms of techno-scientific knowledge are increasingly becoming the backbone of business production and market

dominance. Thus, there is an increasing demand to have personnel that can provide the information to senior management about developments in different fields of knowledge and technological research. Competitive Intelligence professionals, trained in the use of sophisticated information sources and with a knowledge of how businesses operate, can provide that higher level of research and informational reporting that senior managers involved in developing company strategy need to be aware of.

While Competitive Intelligence is largely practiced within private sector, several governments also have active CI research teams. Countries, such as China and France, which see that helping national businesses is part of the role of government, have CI activities. In addition some regional development offices in different areas of the world also perform CI research in order to remain informed about regional competition for businesses looking to locate in new areas and to help businesses already located in their areas. While public libraries do not tend to perform CI work, they sometimes provide sophisticated business research searches for small companies that can be seen as a rudimentary form of CI work.

4. Library Science Education and Competitive Intelligence in the United States

The relation of Competitive Intelligence and education is a complex one because CI is largely a praxis' (Bergeron & Hiller, 2002), a set of practices, rather than a fully formed discipline. Thus there are no departments of Competitive Intelligence per se though the skill set necessary to be CI analyst gets taught in several different departments, such as Business Schools, especially in marketing courses, Library and Information Science Schools, and sometimes in Engineering Schools, specially those that have entrepreneurial courses for science and technology students.

In this article we explore the increasing role that Schools of Library and Information Science in the United States have in educating future CI professionals and make the case that these schools are a natural home for this kind of studies. What follows is a discussion of educational efforts in the area of CI in

LIS Schools and issues that these Schools need to consider if they wish to initiate CI training.

Table 2. Librarianship and CI Education in USA

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- Listing of Some Universities/Colleges Offering CI Courses
<http://www.scip.org/education/ciuniversity.asp>
 - Competitive Intelligence and Librarianship Article
<http://www.suite101.com/article.cfm/9460/61236>
 - Competitive Intelligence as an Extension of Library Education
http://www.alise.org/nondiscuss/conf00_Shelfer-Goodrum_Competitive.htm
 - Curriculum Modules for CI Educational Programs
<http://www.scip.org/education/modules.asp>
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In many ways Library and Information Science Schools are a natural site for educating students in the area of Competitive Intelligence. LIS Schools have long been involved in educating professionals to work in corporate libraries. Most of the large American corporations have corporate library staff. They perform different and varied functions. Some provide traditional services of finding information that is of factual nature. This is the case, for example, in large investment banks. They maintain an information service 24 hours a day 7 days a week to support the complex research that under girds investment deals, such as bringing new companies to market, via Initial Public Offerings (IPOs) or structuring mergers and acquisitions (M&A) of businesses on a global basis. Other corporate libraries fulfill more diverse roles including being in charge of the content of Intranet systems within corporations both at the level of content and sometimes at the level of functioning and maintenance.

Many corporate librarians in the United States are involved in providing new services and bringing new skills to the workplace. Increasingly librarians are involved with providing web research skills training, market research, consulting about information resources and development and management of Intranet systems (Kassel, 2002).

Given that corporate librarians are already involved in all of these roles, it is not a stretch to think that they can perform high quality business and competitive intelligence research and write CI reports that are analytically rich. Thus

Table 3. Competitive Intelligence Research Tutorials

● Market Research Methodologies	http://www.knowthis.com/research/mrbasics/methods.htm
● Conducting Company Research Tutorial	http://www.vbic.umd.edu/coresearch.html#private
● Reading Financial Statements Tutorial	http://www.ibm.com/investor/financialguide/
● Strengths, Weaknesses, Opportunities and Threats (SWOT) Tutorial	http://www.mindtools.com/swot.html
● Intellectual Capital (Patents) Research Tutorial	http://www-old.lib.utexas.edu/engin/patent-tutorial/patenttutorialframeset.htm
● Paper on Information Consulting and Brokering	http://www.aiip.org/IIPWhitePaper.PDF
● Intranet Management and Organization	http://www.iorg.com/intranetorg/index.html

Library and Information Science Schools, which already train traditional corporate librarians are a good fit for training these professionals in the new area of Competitive Intelligence.

The provision of education in CI within LIS schools in the United States exists in several formats. The more common one is the existence of one or more courses, usually taught at the graduate level, that treats Competitive Intelligence specifically. In the Appendix of this article we attach the course description of two courses taught at Library Schools, one at the University of Illinois and one at the University of Texas. Usually the courses on CI are taught as part of a sequence that includes first a course in General Reference, then a course in Business and Economic Information reference and finally a course in CI. Normally the course in Business reference is used to educate the students on the availability of informational resources about business and on the general structure and language of the business world. The course on Competitive Intelligence tends to be more specifically focused on a conceptual understanding of what CI is and on the specific methodologies that get used in the practice of CI.

Several courses within Library and Information Science Schools can be used to provide a foundation for training in Competitive Intelligence. Some of these courses can include:

General Reference, Business Sources, Science and Technology Sources, Online Searching, Government Documents, International Business and Government Sources and courses in Competitive Intelligence proper. While students can gain a very useful skill set in LIS Schools, we think that suggesting some courses within a Business School, such as Introduction to Accounting, Marketing and/or Entrepreneurship can also be very valuable.

In addition to the above courses, LIS Schools can insist in making sure that their graduates learn how to present information in cogent and lucid written form and in oral presentations, using visual tools, such as Powerpoint and other Internet-based demonstrations. As Bruni Martinet and Yves-Michel Marti argue in their book *L'Intelligence Economique*, written reports remain the preferred way of presenting and communicating Competitive Intelligence information.

Another essential component of the training of a CI professional is the ethical dimension. The collection of information about competitors and countries must be done in an entirely ethical manner. At the University of Illinois, for example, the course on Competitive Intelligence includes a strong exploration of ethical issues and all students are taught to abide by the ethical code of the Society for Competitive Intelligence Professionals (SCIP) to be found at their website at <http://www.scip.org/ci/ethics.asp>.

An important aspect of teaching competitive Intelligence to library students is to help them understand that CI is a dynamic process, it goes on continually. In general, librarians are trained to respond to a specific demand for information and then they are done with their work. In a CI environment the research is constant and those involved in the process must gather information and analyze on a constant basis in order to always have some understanding of the ongoing changes in the marketplace.

An increasingly important component of Competitive Intelligence is the use of the Internet for gathering information (McClurg, 2001). The Internet can save the information professional a great deal of time by helping him gather information quickly from company sites, such as annual reports, product prices and so on. In addition the Internet is an excellent source of news from all over the world. At the University of Illinois students learn how to use the Internet to read local

newspapers from where company headquarters are located. Sometimes articles in small local newspapers will have valuable information about the future plans of the major company located where the newspaper is published. Additionally students are taught to find information in many specialized publication sites, such as the Red Herring (www.redherring.com) and Upside (www.upside.com) for articles on Information Technology and Biotechnology companies, both public and private. While the Internet is complex and it can be overwhelming at times, a properly trained information professional can gain a great deal of competitive information from it (Vibert, 2000). A course in advance Business Reference or in Competitive Intelligence can be a good vehicle to teach students to take advantage of this important resource.

What are the components of an introductory course on Competitive Intelligence? The answer to this question receives a variety of responses. We found that different courses on CI being offered at American Universities emphasize different themes and topics. However, here are some common threads. They include:

- Introduction to CI. What is it?
- Discussion of Different models of CI
- Methodologies, such as the SWOT analysis (SWOT stands for “Strengths, Weaknesses, Opportunities and Threats”)
- Sources of information gathering, particularly Internet sources
- Legal and Ethical aspects
- Analysis of specific areas, such as High Technology
- Writing of reports and dissemination of information in the corporation

These topics, of course, need development. For example, under methodologies students need to be taught about many business information sources and different methods of studying companies, industries and markets. The book by Fleisher and Bensoussan, *Strategic and Competitive Analysis*, provides several fruitful methods that students can learn. Additionally students need to be taught to think analytically, to be able to put together a report that provides some conclusions as to what the information contained in the report really mean.

Because Competitive Intelligence is a growing area, we found that there are several

textbooks and books that can be used as the backbone of a course in Competitive Intelligence. Many of them are being used to teach CI in LIS Schools. The aptly titled *Competitive Intelligence* by Chris West presents a lucid overall picture of CI; *The Complete Guide to Competitive Intelligence* (2nd edition) by Kirk W. M. Tyson, has many illustrations of forms, worksheets, checklists and questionnaires that can aid students in formulating a CI search strategy. In addition the book by Craig Fleisher and Babette Bensoussan, *Strategic and Competitive Analysis* can be used to teach students the many methods and techniques available to perform competitive intelligence gathering and analysis of information. We intend the citing of these three textbooks to be illustrative of the variety of books that can be used to learn about and teach Competitive Intelligence. There are many other worthwhile titles in English. A recent and very rich compilation of works on Competitive Intelligence can be found in an article by Bergeron & Hiller, titled "Competitive Intelligence". This article was published in the 2002 edition of the *Annual Review of Information Science and Technology*, edited by Blaise Cronin.

One of the important aspects of a Competitive Intelligence education is to have students experience a real world environment where they can test the skills they have gained studying by dealing with a problem or set of research demands that they would normally expect once they obtain a job. The traditional, and certainly effective way of doing this is to develop internship opportunities for students with businesses and other organizations in need of Competitive Intelligence. At the University of Illinois, in addition to the possibility of internships with businesses, students can choose to participate in a course, called Information Consulting that gives them the possibility of working as Business Information Consultants in a joint project with MBA students in the School of Commerce. This opportunity is the result of a partnership between the Office of Strategic Business Initiatives (OSBI) at the School of Commerce and the Graduate School of Library and Information Science (GSLIS). OSBI acts as a consulting arm of the School of Commerce. In that capacity it receives many proposals from businesses every year interested in having a low cost, high quality consulting engagement to solve some particular problem. The consulting teams are put together with MBA students and Library and Information Science students, who provide informational and some analytical inputs to the work of the consulting teams. Thus students gain valuable experience and

a real world sense of the kinds of problems to which they can apply their research skills.

5. Implications for Korea

Though Competitive Intelligence is growing in importance in global markets, it is not yet well known in Korea. CI can be easily misunderstood as espionage especially in Korea, where the culture of information sharing is not always prevalent. Traditionally, both in companies and in government organizations, departments are not accustomed to share information. However, as the global economy moves towards a model based on the exploitation of information and knowledge, these practices need to change. When Korean companies enter the global market, they increasingly compete against companies from the United States and Europe that have developed corporate models that encourage the sharing of information within the corporation and which make increasing use of Competitive Intelligence. As we mentioned above, CI is definitely different from business espionage, which gathers information by illegal means like hacking' (Malhotra, 1996).

During last decade, the information infrastructure has been developed and spread fast in Korea. The government has paid much attention to making Korea a knowledge-based' society. With the advent of the Internet and the change from bureaucracy to pluralism in Korea, now CI can be practiced without much difficulty in Korean companies.

We have found that CI is increasingly being practiced in several Asian countries, such as China, Japan and Singapore. According to a Calof-Miller Study, Japan was ranked as one of the most advanced five countries where CI is popular all over the world (Miller, 2000). Tao and Prescott indicated that CI is developing rapidly in China with its increasing levels of market competition (Tao & Prescott, 2000).

Overall, Chinese CI units are much larger than the staffs in American CI units, but few practitioners devote all of their time to CI activities, and most practitioners have little experience with a broad array

of information sources and analytical techniques. The findings also indicate the need for a wider adoption of codes of ethics and training. Developments in China's information infrastructure will be a key determinant of how quickly their CI professionals develop their information collection and analytical skills (Tao & Prescott, p.65).

And as Thompson Teo argues in his article on Singapore (Teo 2000), many corporations in that country are also increasingly involved in Competitive Intelligence practices. Thus, it appears to us, that CI is an increasingly important component of business activities in a global economy. Korea cannot fall behind its competitors, both at the national and corporate level, in using CI and in training information professionals that, applying ethical and lawful means, are able to provide important competitive and strategic information to the senior management in businesses and governmental agencies.

While in Korea, the CI units in companies including special libraries are not well known, and they don't play a central role to provide organized information for the decision making of managers in companies, we think that they should. Much attention has been paid to concepts such as 'knowledge-based society', and the 'information economy', but much less attention has been paid to the fact that competing in this new type of economy requires new practices that emphasize the use of information and the development of competitive knowledge. While some businesses in Korea have been starting to implement 'Knowledge Management (KM)' during the past decade, we can't yet regard the KM expert as a well-settled job category. The position of CI professional is even less established. We think, however, that over time these job categories will grow in importance, especially as senior business managers realize that they are at a competitive disadvantage when they do not invest in CI units within their corporations.

So, the rapid proliferation of Korea's information infrastructure, where over fifty percent of the population have access to the Internet through broadband technologies, and the need to compete in a global knowledge economy becomes ever more pressing, LIS education can play a central role in developing CI training. A training that should specially include a thorough grounding on the ethics of CI research.

Thus, we believe that LIS education in Korea should pay attention to developing a program in CI. The marketplace for graduates of LIS education programs is not wide enough presently. Libraries of all kinds are not well developed in Korea, and librarianship is still not fully recognized in the corporate world. Currently, libraries are not able to absorb all of the graduates from LIS programs into their organizations. In fact, many graduates of LIS education find jobs out of libraries, such as Information Technology companies. But these jobs don't seem firmly established and some of the people employed in those positions are currently in transition.

Therefore, it is desirable that LIS education should develop CI professionals who can work in various companies. It will take some time for LIS Schools to educate company managers on the importance of CI and encourage them to employ the graduates of LIS education as their CI staffs. Nevertheless, this field can be one of the most promising occupations for the graduates of LIS education. Basically, CI can strengthen the roles of librarian in the digital age and open up a vision for the librarianship of the future. Steve Hardin, an associate librarian at Indiana State University library in USA commented about this:

I think cataloging is a special case of knowledge management. Technical services librarians will of necessity do less of cataloging of books and more of knowledge management of electronic resources. Competitive Intelligence will be of most use for reference librarians who are doing business reference work. Some librarians will become expert at providing it; others whose fields don't really cover the concept won't need to develop that expertise. (Personal email message dated April 1, 2002)

LIS programs in Korea can start CI education by developing a set of information service courses, which can cover some areas such as 'reference service' in general, business reference in 'social science resources', 'applied science resources', 'government documents', and, as a final course, 'special libraries'. If this combination or cooperation among the related courses is not yet available at present, CI could be taught as a whole in a course like 'special libraries'.

However, when we consider the quantity and quality of CI education, we think that CI should be taught as a series at the undergraduate program or as a whole set in a graduate course. In addition, CI education should include training about governmental regulations both in Korea and internationally which are crucial in today's business world. The regulatory environment, in places like the United States and Europe, tends to be very complex and information professionals can add great value to their work if they help find relevant regulatory information, such as environmental rules, labor laws, rules governing financial transactions and so on.

This CI curriculum within LIS education may serve as the basis for preparing LIS graduates to enter new areas of work. Eventually a career path in Competitive Intelligence can be developed as the business community starts appreciating the value of librarians and information professionals in providing the knowledge about national and global markets that can help advance the competitive goals of businesses. This, in turn, will help raise the profile and importance of an LIS education to the high level of recognition that it needs and deserves.

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APPENDIX

Descriptions of two courses on Competitive Intelligence taught at leading American Universities:

Graduate School of Library and Information Science
University of Illinois at Urbana-Champaign
<http://www.lis.uiuc.edu>

Introduction to Competitive Intelligence. The course will explore ways in which organizations gain a knowledge of their competitive environment, including knowledge about the strategic plans, strengths and weaknesses of rivals. It will also look at the ways in which corporations gain a knowledge about themselves and the best ways of deploying their organizational resources. While the course will

introduce several methodologies and techniques employed in CI, it will also present a conceptual and theoretical framework to help locate CI in the larger context of organizational strategy in the global age. The course will draw theoretical and methodological insights from LIS, sociology, organizational psychology and business.

School of Library and Information Science
University of Texas at Austin
<http://fiat.gslis.utexas.edu>

Competitive Intelligence Resources and Strategies. This three-credit graduate course examines resources and strategies for market and competitive analysis for today's burgeoning markets. Emphasizes research and analysis of market trends and the financial, technical and cultural strengths and weaknesses of companies. Explores online, print and primary research and analytical techniques. Ethics, process and presentation are emphasized.

Readers can find more information about courses and programs in the official website for the Society for Competitive Intelligence Professionals (SCIP) at <http://www.scip.org>. While the listings of offerings in this site are not complete, they do provide more examples than the ones we have listed above.