FID review

Information in the Service of Society

Combining the *FID Bulletin* and the *International Forum for Information and Documentation (IFID)*

Volume I • no 4/5 • 1999

in this issue

10 peer-reviewed papers on:

Competitive Intelligence from the Perspective of Today's Information Professional

covering:-

- Where to Place Competitive Intelligence (CI) in your Company
- Overcoming Net Disease: The Risks of Depending Solely on the Internet for CI Research
- Risk Management and Information Strategy with regard to the Asian Economic Crisis
- The Information Professional: An Asset for CI
- Adding Values to the Retrieved Information
- Document Delivery Survey
- FID News

FID - International Federation for Information and Documentation

Building the Competitive Intelligence Knowledge: processes and activities in a corporate organization

V. Sreenivasulu
Information Specialist, Indian National Scientific Documentation Centre (INSDOC), India

V. Sreenivasulu is an Information Specialist with the Data, Computer & Software Group at the Indian National Scientific Documentation Centre (INSDOC), New Delhi, India. Prior to working at INSDOC, he was a librarian at the National Institute of Agricultural Marketing in Jaipur (NIAM - an autonomous body of the Ministry of Agriculture, Government of India). Prior to this, he served at DESIDOC, Delhi on a project and worked in three British Council Libraries at Chennai, Bangalore and Hyderabad, plus as a Trainee at the Indian Institute of Science (IISc) Library, Bangalore. He was also associated with the Indian Institute of Management Bangalore (IIMB). His work experience includes managing library information services, library automation, digital information system (DIS), knowledge management (KM), and applications of information technology. V. Sreenivasulu received his MLISc. and BEd Degrees from Sri Venkateswara University, Tirupathi, A.P, and PGDCA from Pondicherry University. He is now doing a PhD in Library and Information Science. He has to his credit over 12 publications in international/ national refereed journals/conferences. His current research interests include: Information Psychology and Information Behaviour. V. Sreenivasulu had the privilege of being one of the members of Organising Committee of 49th International Federation for Information & Documentation (FID) Pre-Conference held in Jaipur, India, in October, 1998. He can be contacted at the following address: V. Sreenivasulu, Information Specialist, (Data, Computer and Software Group, DCSG), Indian National Scientific Documentation Centre (INSDOC), 14, Satsang Vihar Marg, New Delhi 110 067, India. Tel.: +91-11-6864268, Fax: +91-11-6862228, Email: mcs@del3.vsnl.net.in

Abstract

This paper discusses the process of building and developing comprehensive tools, techniques, support systems, and better methods of harnessing the competitive intelligence knowledge processes. The author stresses the need for building sophisticated methodological competitive intelligence knowledge acquisition, systematic collection of competitive intelligence knowledge from various sources for critical analysis, process, organization, synthesis, assessment, screening, filtering and interpretation of competitive intelligence knowledge. The paper goes on to highlight the skills and competencies of competitive intelligence professionals in the management of a Competitive Intelligence Knowledge System (CIKS) and outlines the facets and sub-facets of CIKS. The tools, techniques, and methods are briefly and concisely presented. This paper also lists the objectives of competitive intelligence knowledge and the role of competitive intelligence professionals.

Introduction

The 1990s saw the emergence of the *'network is the computer'* paradigm. The evolution of products built around the Microsoft *'Digital Nervous system'* and other technologies is resulting in a move towards yet another science - competitive intelligence knowledge. The competitive intelligence knowledge management process is receiving attention because of the competitive pressures that are forcing firms to explore all technologies to make their organizations, information and knowledge centres work smarter. Modern day imperatives of'getting it right the first time' and achieving six sigma quality levels leave very little room for experimentation and approximate solutions[1].

The approach to building the competitive intelligence knowledge processes

There are many definitions and conceptualizations of competitive intelligence knowledge, however one can distinguish its principal essential elements. The need for the best building practices of competitive intelligence knowledge and competitor analysis is duly recognized by considering the role and development of intra-organizational communication networks, organizational knowledge structures, intranet, extranet, network of intellectual capital databases, knowledge organizing tools and techniques of competitive intelligence knowledge management and competitor information.

There is a need for building sophisticated methodological competitive intelligence knowledge acquisition, systematic collection of competitor information from various sources, and for critical analysis, process, organize synthesis, assessment, screening filtering and interpretation of competitive intelligence knowledge.[2-5] Finally, competitive intelligence dissemination to the decision-makers, managers or user groups helps them to achieve their goals or solve problems. Competitive intelligence is also used as input in strategies planning, strategic competitive knowledge management, decision-making process and provides the necessary feedback. Competitive intelligence knowledge processes are illustrated as a cycle in Fig. 1.

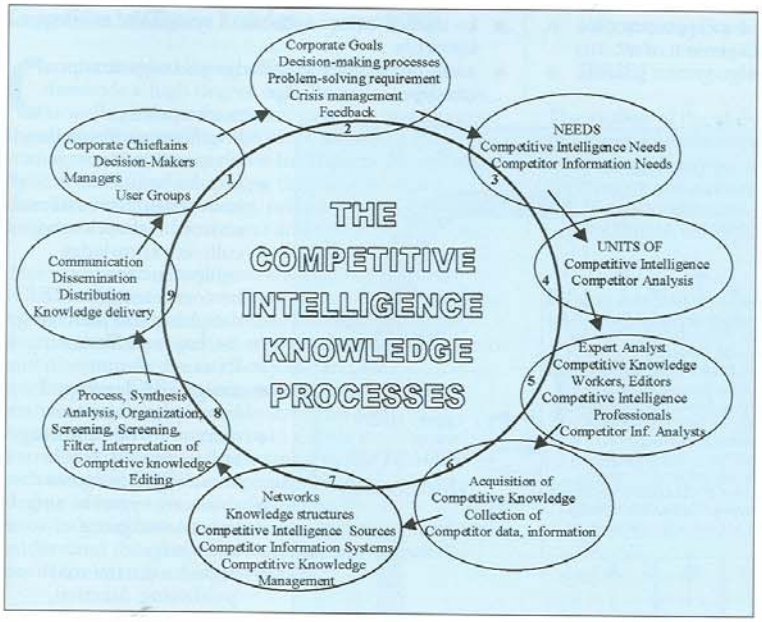

Figure 1. Competitive Intelligence Knowledge Processes Cycle. (This figure has been developed and modelled on the basis of the concept of the Role of Digital Librarians' Skills and Competencies figure, but the figure's content of competitive intelligence is different to that of the Role of Digital Librarians'. See the reference, Sreenivasulu, V. The role of a digital librarian in the management of digital information system (DIS) in the Electronic Library: An International Journal, UK, [Accepted, in press]

The objectives of competitive intelligence knowledge

The competitive intelligence knowledge process aims to:

- provide competitive intelligence knowledge about society, business and economics, politics, science & technology (S&T)
- support the strategic planning and decision-making process
- achieve organizational goals
- provide efficiency and synergy in problem solving
- share knowledge of new repositories
- devise methods to harness competitive intelligence knowledge
- use knowledge broadcasting inside the organization
- develop external knowledge networks in the outside world
- progressively build new knowledge
- organize competitive intelligence knowledge management and competitor information
- build competitive knowledge structures
- explore all technologies to make organizational work smarter.

Role of the competitive intelligence professional

What can the competitive intelligence knowledge professional contribute to the competitive intelligence knowledge process? Through *'acquired intelligence'*, the competitive intelligence professional knows how to acquire, process, organize, access and share knowledge and they are the first to share information/knowledge. The competitive intelligence professional (CIP) could more specially offer the following to the competitive intelligence knowledge process - the ability to:

- cultivate intelligence knowledge competencies
- develop specialization in knowledge acquisition for knowledge-based systems.
- deliver competitive intelligence via networks, web sites or other electronics transfer, as well as information/knowledge resources for education.
- provide referral/consultancy services for competitive intelligence knowledge in areas such as aviation, defence, business economics, commerce, media, science & technology, telecommunications, marketing, market research and strategy
- conduct educational and training programs
- Audit organizational assets
- develop of knowledge structures- build knowledge communication networks
- integrate external knowledge.

Skills and competencies of competitive intelligence professionals

The Competitive Intelligence Professional (CIP) is a specialist information professional who manages and organizes the competitive intelligence knowledge system (CIKS), combines the functionality for intelligence knowledge acquisition, collection, storage, searching, navigation, interfacing online, off-ramps from various networks, monitoring, extraction, interpretation, forecasting and dissemination and additional competencies that a competitive intelligence professional should develop and the ability to think in terms of knowledge networks.

The competency of the competitive intelligence professional is represented by sets of skills, attitudes and values that enables the CIP to work as a CIP or knowledge worker and knowledge communicator. There are skills and competencies that the CIP should

develop. The following skills and competencies are required by the CIP for the management of a competitive intelligence knowledge system (CIKS).

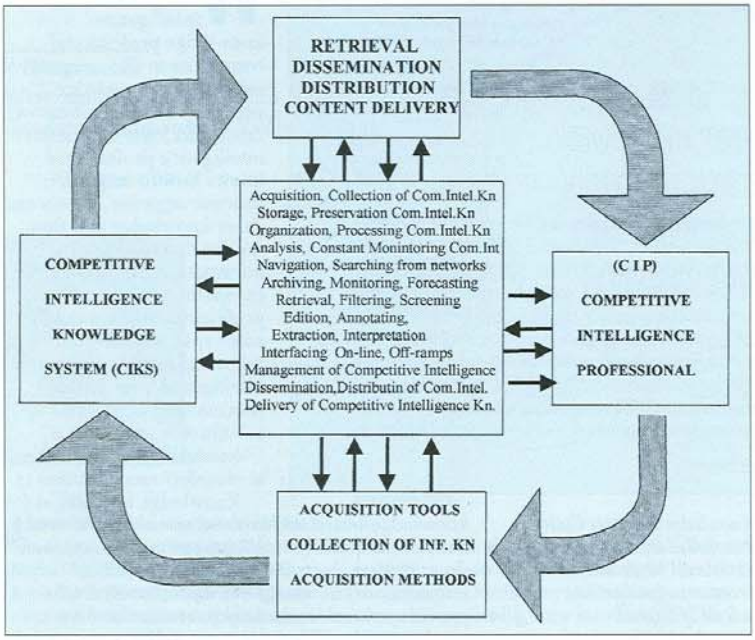

Fig 2. The Competitive Intelligence Professional's Skills and Roles in the Management of a Competitive Intelligence Knowledge System (CIKS).

Competencies of competitive intelligence professionals

Competitive Intelligence Knowledge System (CIKS) management reflects the emphasis on human resources as an asset for the corporation, what is called the 'intellectual capital'. From the corporate point of view, there is an immediate return of investment in terms of human capital, organizational renewal, business developments as well as further gains that flow from the application of more managerial ability by all knowledge workers.[14]

Investment in the existing competitive intelligence professionals helps them to acquire new technical and managerial skills. The risk is that resources are spent on training for its own sake, and not on building intellectual capital. The competencies needed by a competitive intelligence knowledge professional include the ability to:

- use the IT system setup to support the process, web authoring
- search, navigate, and browse networked databases, electronic messaging
- evaluate the information needs of the corporation
- be trained in the methods of systematic scanning of literature
- audit intelligence knowledge and organizational intelligence knowledge
- use knowledge broadcasting inside the organization[16]
- acquire competitive knowledge from external sources, Network services
- cultivate knowledge competencies
- be competent in designing and managing the Internet, Intranet, Extranet
- design and develop knowledge databases
- carry out web authoring, and to develop knowledge structures
- structure, organize and index intelligence knowledge
- organize the internal 'publishing' function, organize external knowledge flows
- integrate data, documents and personal knowledge
- Link policies, resources, activities and outputs

There are additional competencies that the competitive intelligence professional should develop. One is the ability to think in terms of knowledge networks[17]:

Internal Networks

- personal networks
- competence groups, GroupWare
- intra-organizational communication networks
- internal knowledge structures
- world wide web-based Intranets

External Networks

- personal networks
- Knowledge networks
- Human networks
- Extranets
- Internet
- External knowledge resources
- Customers, suppliers, partners, knowledge workers, intelligence capital databases.

Training programmes can be provided on competitive intelligence knowledge with the following aspects:

- computer and information literacy,[18] Sharing databases of best practice
- core competencies, navigation through the world of information
- online training, database searching, IT components, including networks[19]

Competitive Intelligence Knowledge System (CIKS)

Competitive Intelligence Knowledge (CIK) demands a high degree of skills and competency, as well as computer and information literacy from the competitive intelligence professionals in the management of Competitive Intelligence Knowledge System (CIKS) which targets the accurate and calculated decision-making, problem solving, corporate goals achievement and crisis management.

The Competitive Intelligence Knowledge System (CIKS) refers to the overall competencies (knowledge, know-how, skills and attitudes) necessary to create, acquire, collect, organize, edit, interpretate, forecast, and disseminate the rich body of competitive intelligence. CIKS management issues includes maintaining the appropriate technical and organizational infrastructure to enable intelligence knowledge sharing and selecting specific contributing technologies. CIKS management requires a high degree of computer and information literacy, knowledge of how to use information technology to understand the competitive intelligence knowledge needs for strategic decision-making.

The following list of component concepts gives an outline of the inter-related facets and sub-facets which are useful for the design, development and management of CIKS and for the education and training of the CIP.

Outline of component concepts of a Competitive Intelligence Knowledge System

- Decision Support System (DSS), Executive
- Information System (EIS)
- Management Information System (MIS),
- Inter-organizational Information System (IIS)
- Knowledge Management System (KMS),
- Database Management System (DBMS)
- Network Infrastructure
- Internet, Intranet, Extranets, Knowledge
- Warehousing, Knowledge Discovery in databases (KDD)
- Groupware, IT Applications, Computer
- Supported Collaborative Work (CSCW)
- Expert System, Artificial Intelligence, IIS, EIS,
- Intelligence Knowledge Infrastructure
- Resources, Processes, Technology, Human Capital
- Organizational Knowledge Structures
- Knowledge models[12], Knowledge objects, Knowledge profiles[13],
- Competitive organizational profiles, Case studies, Intelligence strategies
- Research reports, Research studies, Electronic newsletters
- Tacit intelligence knowledge, Telecommunications and networks
- Automated system exchanging knowledge,
- Information/ Knowledge sharing, a dense web structure
- Linking intelligence knowledge sharing

The outline of the above components, facets and sub-facets provides a concise picture of a Competitive Intelligence Knowledge System (CIKS) within a corporate organization. These facets and sub-facets help in the design and development of a competitive intelligence knowledge system (CIKS).

Building competitive intelligence knowledge organizing tools, technologies and methods

The process of building and developing a comprehensive tools and support system should attract both explicit competitive information and tacit competitive intelligence knowledge about each competitor and provide on-line competitive intelligence knowledge to the Chieftains. The goal is to finally integrate the external knowledge with the corporate-wide information system.

Competitive intelligence knowledge organizing tools such as *Lotus notes, BackWeb* and other GroupWare technologies running on the ubiquitous Intranets, Extranets, Internet-based WWW, intra-organizational communication networks, and knowledge networks etc, are enabling the creation and sharing of knowledge repositories. The following tools, techniques and methods can be used for building and promoting the concept of competitive intelligence knowledge processes:

- Building World Wide Web-based Intranet - Knowledge-On-Line (KOL)
- Building knowledge networks
- Building an extranet
- Building intellectual capital databases/ human resources networking
- Creating competitive intelligence knowledge and competitor analysis units
- Creating Knowledge Navigation Centre (KNC)
- Using knowledge software tools- Notebooks, BackWeb, NORMA records, LIBSYS, ECHLIB plus.
- Building intra-organizational communication networks
- Using knowledge to gain competitive edge- Building competitive intelligence knowledge
- Developing organizational knowledge structures
- Developing sophisticated collection and acquisition methods
- Developing analysis, synthesis, reporting techniques
- Improving dissemination systems and channels
- Building competitor information systems, systematic competitor monitoring methods, techniques
- Conducting educational and training programmes

Building world wide web-based intranet - knowledge-on-line (KOL)

Competitive intelligence knowledge processes need to build the Intranet to share all their knowledge on a corporate Intranet, which follows the pattern of an intra-organizational communication network. The process involves gathering corporate knowledge, evaluating it and deciding what to add to it. The new intelligence knowledge professional is largely involved in the rollout, which required at lot of capturing and processing of intellectual capital. The challenges included deciding who would run knowledge-on-line.

One of the problems of web technology is that the business communication model it presents is not balanced: often web technology is used only to reach the customers. The Intranet model gives a more balanced approach. Interactive business applications can now be accessible to a corporate organization's users irrespective of their location. Instead of having a single server devoted to user-oriented intelligence knowledge applications, the organization might have a group of low-level servers created by different departments of the corporate organization to open their channels of information to the rest of the enterprise. The system would be so patterned that data from the various servers could be funnelled off through different groups.

How does it work?
Intranets are private networks that use the infrastructure of the Internet and the interface of the Web. An Intranet allows information to be spread around an organization. It uses Internet compatible standards available on virtually any computer. The Intranet is also, by mainframe computer standards, remarkably fast and cheap to set up. This adds to its appeal, particularly for larger corporate organizations with complete legacy data systems.

An important feature of an Intranet is that an Internet connection is not required. A corporate organization can have an internal web or Intranet without ever having an Internet connection. The only items required are a network and a set of desktop computers running the correct protocols and software to enable the Intranet to operate. By installing a web server on a local computer, any department in an organization can become an ad-hoc 'information centre' transmitting published material and data to the rest of the network on demand. Any user in the network using browsers like *Netscape* and *Mosaic* can access the information.

Uses of Intranet
Intranet can be adapted as a team collaboration tool. It can help people communicate when they have difficulty in getting together in one place at one time.

Daily organizational news and information, employee-oriented materials, corporate organization policy programs and newsletters can be published over the internal web instead of going through the paper distribution system.

Catalogues sent out online can save costs on printing, binding and distribution. Moreover, by the time the printed version reaches the users, it may already be out of date. Intranet can change the entire information delivery process. The catalogue data could be collected in a database that would be continuously edited and maintained online by the production division. The database would be stored on a computer alongside the web-server software, so that information could be transferred directly from the database to the web server and from there across the network to the user's web browser. The customer will then be able to view the entire catalogue online and see updates as and when they occur.

In fact, Intranet technology is economical both in terms of corporate time and expenditure. Documents can be created, distributed, retrieved and displayed on any computer, regardless of the user system on which the document was created.

It can be used for corporate-wide e-mail services. This will simplify and streamline inter- as well intra-office communications by allowing for the immediate delivery of responses to important memos. E-mail can also be used for surveys and feedback on projects, and for project progress reports. This would eliminate the danger of these documents getting lost in the process of delivery.

Building an intraorganizational communication network

Intra-organizational communication networks provide a selection to the 'logistics' problem of competitor information and competitive knowledge management by actually ensuring that the right piece of information is in the right place at the right time. By using communication networks, managers and knowledge workers are able to manage and make sense of the vast overload of information facing them in the competitive environment. The task of the communication network is in fact to divide the labour of competitor monitoring and competitor analysis through delegation to other network members. In this way, intraorganizational networks reduce the need for external transactions, while at the same time actually enhancing the amount of information sources at the organization's disposal.

Both in the case of managers and knowledge workers, exploitation of these communication networks is a characteristic of information acquisition. The exploitation of an organizational participant's knowledge structure is basically a tool for dealing with the first dimension of this *'logistics'* problem i.e. the *'right information'*. The solutions to the other two aspects - *'right place'* and *'right time'* - are embedded in

the reciprocal and symbiotic nature of intraorganizational networks.

The competitor information is transferred mostly in the intraorganizational network covering line functions like production, marketing and general management. Most staff functions like research and development and also those dealing with competitive intelligence activities are outside this collegial network.

Building knowledge networks: the power of ideas

One important area for promoting the competitive intelligence knowledge is networking. Networks are nothing new. They are the examples of the power of ideas to progress through common concerns into affirmative responses, information, knowledge and debate.

Building knowledge networks in organizations involves five phases. First, a management survey has to be conducted within the organization to identify the critical activities in which an improvement in performance could have a significant impact. Second, the creation of knowledge repositories should be initiated and a team established to ensure that the knowledge base developed is validated by available experts. Third, the acquisition methods must be finalized along with GroupWare and workflow tools to facilitate the dissemination of knowledge across the network. Fourth, collaborative working and knowledge sharing mechanisms must be established and all practitioners should be trained in the tools, techniques and processes. Fifth, the knowledge performance index should be developed and refined and improvements measured on an ongoing basis.

Building an Extranet

The 'extant', basically, is the part of an organization Intranet to which access is granted to certain outside parties, such as company suppliers. Competitive intelligence knowledge being managed by computers and competitive intelligence knowledge professionals is largely defined as anything that an organization needs to communicate to an external partner on a regular basis. An extranet is meant to streamline communications and intelligence knowledge processes, and should be available 24 hours a day, seven days a week.[7]

For example, if you run a hospital, you must constantly keep an inventory of things like bandages and medicines, and order more from your outside suppliers frequently to keep the hospital running. You may already share this inventory information on your intranet, so that the people using bandages can update their supply and demand information electronically for the people in charge of ordering. Their access can be controlled by firewalls and authentication, thus restricting access to certain information to specific people.

Building intellecutal capital databases: human resources networking

The development of a database on human resources/intellectual capital facilitates the sharing of information. Moreover, knowledge databases can be used as analytical tools for the corporate's competitive intelligence needs. A database can be created by gathering data related to human resources through a questionnaire. Once the database has been developed, it can be integrated with the intraorganizational communication network so that it can lend itself to the competitive intelligence knowledge needs of the corporate organization.

Creating a competitive intelligence knowledge unit

In many large organizations the collection, interpretation and analysis of competitive intelligence has to be assigned to a specialized intelligence knowledge unit or competitor analysis unit in order to exploit the synergy created by the centralization of various networks, knowledge centres, organizational knowledge structures, and competitor information systems. The role of an intelligence or analysis unit is to assist the competitive intelligence professionals and knowledge workers to acquire the first type of competitive information and knowledge. In order to be able to help competitive intelligence professionals and knowledge workers in their problematic decision-making situations, intelligence staff and analysts will have to be part of these organizational participants networks. Being outside this network entails that intelligence staff and analysts do not actually know the constantly changing competitive intelligence knowledge needs and uses of chieftains, managers and knowledge workers. The intelligence and analysis unit monitors competitors and acquires all the available information, both from internal and external sources.

Creating a knowledge navigation centre: solution in search and training problem

Creating a knowledge navigation centre (KNC) might be considered to be the knowledge centre of the future. The KNC is an attempt to share the competitive knowledge, ideas and motivations of individuals - organizational, political, economical, institutional, idealistic, and pragmatic - all of whom contribute to the decision to create a new service facility to develop competitive intelligence knowledge management. The KNC provides facilities, expertise, evaluation, training and encouragement to the competitive intelligence knowledge professionals who wish to explore, evaluate and apply innovative technologies to their scholarly endeavours.[8] The KNC holds a unique place in its ability to conjoin a broad range of subject expertise, rich intellectual resources and technological innovation in the pursuit of the advancement of competitive intelligence knowledge processes.

Using intelligence knowledge software tools - notebooks, backweb, norma records, libsys, techlib plus

Knowledge organizing tools that are being put to use allow all users to view lists of the knowledge collections as well as intellectual capital databases. Knowledge organizing software tools such as *Notebooks*, *BackWeb*, and *NORMA* records are readily available on the open market [9]. *Notebooks* library automation software and *NORMA* records allow users to share information corporate-wide on almost any platform. These products can hold corporate knowledge as well as an entire corporate library Online Public Access Catalogue (OPAC). Notebooks (so named because it is a system inside Lotus Notes) allows all users to view lists of the library's collections (books, videos, serials, table-of-contents databases etc), as well as any intellectual capital database that the library has built. It contains a central corporate knowledge base then that helps to ensure job security for the knowledge workers. *'Knowledge information centre libraries can either be islands of information or part of the corporate information infrastructure'.*

Use knowledge to gain the competitive edge

Competitive advantage can result when knowledge management is utilized effectively.[10] For example, when knowledge initiatives are accurately based on a company's core competencies, competitive knowledge needs, and market opportunity areas, then desirable results can be expected.[11] Knowledge management initiatives should address the needs of integrating knowledge systems with information that could have a critical impact on the organization. Knowledge is one of the most valuable assets for an organization. Therefore, until organizations start to adopt methods of documenting tacit knowledge, then valuable knowledge capital will continue to be wasted.

Challenges and opportunities of competitive intelligence knowledge

Competitive Intelligence requires an infrastructure to develop various networks. It is expensive to build such an infrastructure. Corporate organizations already have information centres or libraries from whence they can disseminate information to their corporate clientele. The author opines that competitive intelligence knowledge can be a part of, or a division of, the information centre or library which already has an infrastructure and knowledge professional resources. It can be set up initially as a Competitive Intelligence Knowledge Task Group or Competitive Intelligence Knowledge Division which comprises a Librarian or Information Manager, Reference Librarian, Subject Expert of the Corporate Organization concerned, and an IT Specialist. This will help to minimize the investment on infrastructure to a certain extent. Even small corporate organizations can use this process to develop a foundation for Competitive Intelligence Knowledge.

Our intensive investment with the concept of Competitive Intelligence Knowledge may lead to the conviction that there is one single success factor: commitment at the top managerial level of the corporate organization. It is inconceivable that a successful, integrated approach could ever be achieved through a bottom-up approach. At the same time, there appears to be one major obstacle in the way of Competitive Intelligence Knowledge: managers. Most managers tend to either view Competitive Intelligence Knowledge as a functional specialization and to appoint a 'Competitive Intelligence Professional' to the role, or to delegate the responsibility for competitive intelligence knowledge management to an existing functional area, usually IT. Therefore the one thing that an Information Professional should not do is assume responsibility for the competitive intelligence knowledge management within the corporate organization, beyond the boundaries of what legitimately belongs to the domain of one's own profession. If the Information Professional keeps that in mind, and happens to have a responsive top management that understands its responsibility, he or she will find exciting opportunities to contribute to the new domain of competitive intelligence knowledge.

There appears to be one major obstacle in the way of Competitive Intelligence Knowledge: managers.

Final word

The phrase 'competitive intelligence knowledge processes' has finally been solidly explained and competitive intelligence knowledge professionals would get into the action in their corporate organizations. After all, in all the tools and techniques above, the activities suggested for competitive intelligence knowledge professionals - building up various networks, and developing various tools, methods and techniques are the logical steps to build and develop competitive intelligence knowledge processes activities in any corporate organization.[21]

The coordination of competitive intelligence knowledge activities obviously is necessary, though a balance should be sought between the formal intelligence and analysis activities and those intelligence activities that are informally dealt with by existing knowledge structures and intraorganizational

communication networks and knowledge networks should concentrate on supporting the free flow of competitor information and not so much to monopolize competitive intelligence knowledge.

Competitive intelligence knowledge initiatives should, therefore, integrate the knowledge systems with information that has critical impact on the organization. A competitive advantage can result when competitive intelligence knowledge is utilized effectively. The ultimate goal of the competitive intelligence knowledge professional is to create an integrated intelligence knowledge system that will respond to a query by providing intelligence knowledge from a variety of (internal and external) knowledge sources. Modern corporations can learn many new things Intranets and intraorganizational communication networks from it, such as:

- How to integrate diverse types of information online in a multi-media environment
- Means of conducting corporate transactions automatically without human intervention
- How to design and implement systems that encourage collective action
- How to finally achieve the concept of a 'paper-less office'.

Notes

1. This figure is developed and modeled on the basis of the concept of the Role of Digital Librarian' skills and competencies figure, but the figures' content of competitive intelligence is different to that of Role of Digital Librarians. See the reference, Sreenivasulu, V. The Role of a digital librarian in the management of digital information system (DIS), the Electronic Library: An International Journal, UK, [Accepted, in publication].

References

1. Natarajan, Ganesh, knowledge management, *Indian Express*, Monday, July 12, 1999, p. 11.
2. Sammon, W. L., Kurland, M. A. & Spitalnic, R. *Business Competitor Intelligence: Methods for collection, organizing, and using information.* John Wiley & Sons, New York, 1984.
3. Herring, J. P. Building a Business Intelligence System. *The Journal of Business Strategy*, vol. 12, 1988, p.48-52.
4. Giland, B. The role of organized competitive intelligence in corporate strategy. *Columbia Journal of World Business*, vol. 24, 1989, p.29-35.
5. Ghoshals, S, & Kim, S. K. Building effective intelligence systems for competitive advantage, *Sloan Management Review*, vol. 28, 1986, p.49-58.
6. Nellke, Margaretta. The role of the corporate library in the knowledge management process, *Information Services & Use*, Vol. 19, 1999, pp. 49-54.
7. Jord, Terje O. M. F. Intranet and information: bringing order to chaos, *FID News Bulletin*, Vol. 47, No. 7-8, July/August, 1997, 197-201.
8. Macadam, Barbara, Folger, Kathleen M., & Look, Helen. Creating knowledge facilities for knowledge work in the academic library, *Library Hi-Tech*, vol. 61, no. 1, 1998, pp. 91-97.
9. BackWeb takes to the Intranet to push critical information out to users, *Information World Review*, June 1998, pp. 17-18.
10. Kalseth, Karl. Knowledge management: Putting information and people's competence to work together, *FID News Bulletin*, Vol. 47, No. 7-8, July/August, 1997, pp. 191-192.
11. Peterson, Barbara J. Knowledge management - A 3M perspective, *FID News Bulletin*, Vol. 47, No. 7-8, July/August, 1997, pp. 193-195.
12. Tolen Frans A.L. Knowledge management: A practical approach, *Information Services & Use*, Vol. 19, 1999, pp. 57.61.
13. Eek, Jan. Knowledge architecture and enterprise competence networks. The challenges, the pain, the rewards, *FID News Bulletin*, Vol. 4, No 7-8, July/August, 1999, pp. 202-207.
14. Engendering corporate scholarship through real-time learning, *Education & Training*, vol. 41, no. 3, 1999 pp. 136-137
15. Investing intellectual capital. *Education & Training*, vol. 41, No. 3, 1999, pp. 150-151.
16. Mining those hidden resources, *Education & Training*, vol. 41, No. 3, 1999 pp. 148-149.
17. Owen, John Mackenzie. knowledge management and the information professional, *Information Services & Use*, vol. 19 1999, pp. 7-16.
18. Sreenivasulu, V., Sood, S. P., & Prabha Krishnan. Computer and information literacy: Challenges for modern information professionals at the advent of XXI century, *Online CD-ROM Review: International Journal on Online, Optical & Networked Information*, vol. 22, No. 6, 1998, pp. 395-397.
19. Blom, Dennis. Skills of knowledge and information managers - are curricular up-to-date(enough)? *Information Services & Use* Vol. 19, 1999, pp. 3-6.
20. The choice for knowledge management & competitive intelligence professionals at: http://www.Philips.com/pbi/knowledge
21. Librarians get a handle on knowledge. Information World Review, June 1998, pp. 25-26.
22. http://www.scip.org/index.htm/
23. http://www.aurorawdc.com/
24. Guha, Suparna and Adhikari, Abja. Intranet: The new information toolkit for the corporate sector, *IASLIC Bulletin*, vol 43, no. 4, 1998, p.157-162.