ENVIRONMENTAL SCANNING AND KNOWLEDGE/INFORMATION AUDIT FOR INFORMATION MANAGERS

Syllabus for

INFM 718L

**Spring
2009**

Prof. Taverekere (Kanti) Srikantaiah, Ph.D.
Director and Professor
Center for Knowledge Management
Dominican University
Office: 708-524-6944
Fax: 708-524-6657
E-mail: srikant@email.dom.edu

Environmental Scanning and Knowledge/information Audit for Information Managers
(3 Credit Hours)

Pre- or Co-requisites:
  Pre: INFM 600, Information Environments

Pre or Co: INFM 612, Management of Information Programs and Services

Catalog Description:

Methods and techniques to monitor the environment to identify opportunities and threats and relate them to the strengths and weaknesses of the organization to fulfill organization information needs and their sustainability. Apply tools of knowledge/information audit to determine the existing information environment by assessing the information needs of the organization, determining the information currently available; identifying gaps and other needs. Apply the results of assessment, scanning the internal as well as external environment, for the strategic information management within the organization.

Extended Description:

An information audit is the process of reviewing the information environment of an organization to identify the information needs of individuals within an organization as well as those of the organization itself. It identifies information created within the organization and assesses its value. It reviews the use of internal and external information resources. It maps information flows and develops knowledge and information maps of the organization.

Complimenting the knowledge/information audit, environmental scanning is how managers keep in touch with their external environment as well as with what their own organization is doing; understanding these issues allows the manager to initiate change in response to what he learns. Information professionals may use scanning both in their roles as managers of their own departments and as providers of information to other staff involved in monitoring the environment. Environmental Scanning will explore the theoretical issues associated with identifying the types and sources of information relevant to departmental and organizational scanning needs as well as the practical issues associated with collecting that information. There is no single right or wrong way to conduct an environmental scan. It can be as simple as regularly surfing Web sites and reading magazines. Or it can be as sophisticated as conducting formal literature reviews, distributing surveys, and convening focus groups. Methods and techniques for collecting information about an organization's internal and external environment will be discussed. The organization's financial and human resources as well as its strategic priorities should determine the size and scope of the project.

Both environmental scanning and knowledge/information audit are valuable tools for Information Managers.

Goals:

After completion of this course, the student will be able to:

- Understand the nature and importance of environmental scanning activities and the role of knowledge/information audits
- Analyze an organization's internal and external environment to identify strengths, weaknesses, opportunities, and threats (SWOT analysis)
- Understand the methodologies used in knowledge/information audits to plan, execute and evaluate a knowledge/information audit project
- Determine relevant types and sources of information to support an organization's strategic environmental scanning needs
- Create a plan for collecting and communicating information about the environment based on environmental scanning tools and knowledge/information audit tools.

Topics:

- Nature and importance of environmental scanning and the information professional's role in support of these activities

- Analyzing organizational strengths, weaknesses, opportunities, and threats (SWOT analysis)

- Planning an audit

- Identifying critical information needs

- Developing information and knowledge maps

- Determining relevant types and sources of information to meet these needs

- Designing and implementing cost-effective data collection Strategies

- Communicating findings effectively

Course Approach/Teaching and Instructional Methods:

The course will be conducted in the style of a seminar to develop students' analytical abilities in the area of environmental scanning systems and knowledge/information audit methods. The course is divided into logical and specific linked segments to provide an incremental approach to build expertise. Students are expected to participate in class discussions through Blackboard, to

ask questions, to identify readings related to ES/IA, and share experiences with other students. Suggested readings are provided at the end of the syllabus to enhance learning. Each student will complete an exercise involving environmental scanning and knowledge/information audit (in the form of a project/paper) and will make an oral class presentation on the findings during the last meeting. A final written report should be submitted to the instructor for evaluation on the last day of the class.

Course Requirements

a) Chapter Discussions (20%)

During the course, you will have to review chapters from Choo's textbook and participate in the weekly discussion. If you are starting the discussion, you need to provide the synopsis of the chapter. If synopsis is already posted by someone else, you can react to it by posting your thoughts with additional information. In your participation, you will have to demonstrate:

> Knowledge of the subject matter
> Identifying useful references
> Sharing experiences
> Generating additional classroom discussion

The point you earn for your participation depends on:
> **When you start posting**
> **How many times you interacted with other postings, and**
> **Quality of your postings**

All postings should be in place before the due date for consideration of full points.

b) Two Reading Commentaries (20%)

You need to read two articles in Environmental Scanning and Knowledge/Information Audit from the professional literature and submit a one page review of the paper pointing out the learning from the reading onto the Blackboard. **First article should deal with Environmental Scanning and the second should deal with Knowledge/Information Audit.** Written commentaries should be submitted before the due date for consideration of full points.

c) Assignments (20%)

There will be **two** individual assignments given out during the semester and they are to be completed and submitted in the Assignment Folder before the due date

to be considered for full points. The individual assignments are designed to help to add value to your project/paper you have undertaken.

d) ES/IA Project/Paper (40%)

The project/paper you undertake should be comprehensive to help you apply the learning in the area of environmental scanning and knowledge/information audit from the course. You can undertake an individual project/paper or participate in a group project. The project/paper will serve as a practical learning experience in understanding various issues in environmental scanning and knowledge/information audit. Students should submit their project/paper proposals during the second week. The format for the proposals and the methodologies for the project/paper will be discussed during the first class meeting.

Grading Information

Active participation in the class room discussions will be necessary for successful completion of each segment, as well as for completing the paper. All assignments should be submitted in complete form on agreed schedule. As the course is in seminar style, student participation is mandatory. In general, the following percentages will serve as guidelines in the evaluation of one's performance and relative contribution to the final grade.

Class participation   20%

Two reading commentaries   20%

Two assignments   20%

ES/IA project/paper:

     Clear and relevant proposal   5%
     Oral presentation of findings (last meeting)   10%
     Written report submission   25%

Required Texts:

1. Choo, Chun Wei. (2002). <u>Information Management for the Intelligent Organization: The Art of scanning the Environment</u>. 3rd ed. Medford, N.J., Information Today.

2. Henczel, Susan. (2001). <u>The Information Audit: A Practical Guide</u>. Gale Group.

Course Schedule

Sessions   Topic

January 31	**Introduction**
	Class introductions
	Review Syllabus
	Background: Historical development, and concepts
	Discussion of course requirements and assignments
	Working definitions

Feb. 6-13	**The Intelligent Organization**
	Organizational environment
	Organizational unlearning
	Information processing
	Posting of project proposals
	Blackboard discussion: Choo's Chapter 1

Feb. 14-20	**Needs Analysis**
	Creation, acquisition, process, storage and dissemination
	Information products and services
	Information use
	Blackboard discussion: Choo's Chapter 2

Feb. 21-27	**Management and Information**
	Environmental scanning in information profession
	Politics of information
	Information management issues and implications
	Blackboard discussion: Choo's Chapter 3
	Reading Commentary # 1 Due

Feb 22-Mar. 6	**Environmental Scanning Applications**
	Context of strategic organizational learning
	Competitive intelligence
	Business intelligence
	Social intelligence
	Blackboard discussion: Choo's Chapter 4
	Assignment # 1 Due

Mar. 7-13	**Environmental Scanning: Case Studies**
	Organization strategies
	Reading the environment
	Case studies in scanning and audit
	Blackboard discussion: Choo's Chapter 5
Mar. 14-20	**Spring Break**
Mar. 21-27	**Managing Information Sources**
	Explicit sources
	Tacit sources
	Technology considerations
	HR factor
	Blackboard discussion: Choo's Chapter 6
Mar. 27-Apr.3	**Web Environment and ES/IA**
	Usages of Web resources
	Intranet and Internet
	On line databases
	Blackboard discussion: Choo's Chapter 7
	Reading Commentary # 2 Due
Apr. 4-10	**Intelligent Organizations and ES/IA**
	Intelligent organizations and organization learning
	Designing effective ES systems
	Major issues
	Blackboard discussion: Choo's Chapter 8
Apr. 11-17	**KM and the information professional**
	Importance of KM
	ES, IA, and KM
	Blackboard discussion: Choo's Chapter 9
	Assignment # 2 Due
Apr. 18-24	**New paradigm**
	Environmental scanning and systems thinking
	Creating an ES culture

Organizational strategies

**Blackboard discussion: Henczel's
Information Audit Methodology**

Apr 25-May 8   **Analysis and verification of data**
ES and Audit success factors
Presentation Techniques
Complete your project/paper report

May 9   **Conclusion**
Review of all sessions

Oral presentation of projects/papers

Submission of written reports

SUGGESTED READINGS

Books

- Aguilar, F. J. (1967). <u>Scanning the business environment</u>. New York: MacMillan.

- Burwell, Helen P. (2004). <u>Online Competitive Intelligence: Increase Your Profits Using Cyber-Intelligence</u>. 2nd ed. Tempe, AZ., Facts on Demand Press.

- Davenport, T.H. (1997). <u>Information Ecology: Mastering the Information and Knowledge Environment</u>. New York, Oxford: Oxford University Press.

- Miller, Jerry P., ed. (2000). <u>Millennium Intelligence.</u> Medford, NJ: Cyber Age Books.

Articles:

- Amram, Martha & Nalin Kulatilaka (1999). "Disciplined decisions: aligning strategy with the financial markets." <u>Harvard Business Review</u>, 77(1): 95-104.

- Auster, E., & C. W. Choo. (1991). "Environmental Scanning: A Conceptual Framework for Studying the Information Seeking Behavior of Executives." <u>In ASIS '91:</u> <u>Proceedings of the 54th ASIS Annual Meeting,</u> (Medford, NJ: Learned Information), 3-8.

- Bates, M.E. (1997). "Information Audits: 'What Do We Know and When Do We Know It?" <u>Library Management Briefings</u>.

- Booth, A. and M. Haines. (1994). "Information Audit: Whose Line is it Anyway?" <u>Health Libraries Review,</u> 10 (4), 224-232.

- Brown, Mairéad. (1997). "The Field of Information Policy: 1. Fundamental Concepts." 23 (4) <u>Journal of Information Science,</u> 23 (4), 261-275.

- Brown, Mairéad. (1997). "The Field of Information Policy: 2. Redefining the Boundaries and Methodologies." <u>Journal of Information Science,</u> 23 (5), 339-351.

- Choo, C. W. (1999). "The Art of Scanning the Environment." <u>Bulletin of the American Society for Information Science,</u> 25(3): 21-24.

- Choo, C. W., B. Detlor and D. Turnbull. (1999). "Information Seeking on the Web—An Integrated Model of Browsing and Search." <u>In ASIS '99: Proceedings of the 62nd Annual Meeting of the American Society for Information Science</u>, Medford, NJ: Information Today.

- Choudhury, Vivek and Jeffrey L. Sampler. (1997). "Information Specificity and Environmental Scanning: An Economic Perspective." <u>MIS Quarterly,</u> 21(1): 25-53.

- Cortez, E.M. and E.J. Kazlauskas. (1996). "Information Policy Audit: A Case Study of an Organizational Analysis Tool." <u>Special Libraries,</u> 87 (2), 88-97.

- Culnan, M. J. (1983). "Environmental scanning; the effects of task complexity and source accessibility on information gathering behavior." <u>Decision Sciences,</u> 14(2), 194-206.

- Dalton, P. (1999). "Investigating Information Auditing." <u>Library and Information Research News,</u> 23 (74), 45-50.

- Drucker, P. (1995). "The Information Executives Truly Need." <u>Harvard Business Review,</u> January-February, 55-62.

- El Sawy, Omar A. (1993). "Environmental Scanning by CEOs in Two Canadian Industries." <u>Journal of the American Society for Information Science,</u> 44(4): 94-203.

- Frishammar, Johan. (2002). "Characteristics in Information Processing Approaches." <u>International Journal of Information Management,</u> 22(2); 143-156.

- Gillman, P. (1997). "What Information Audits Tell You About User Needs." <u>State Librarian,</u> 42 (3), 43-55.

- Haynes, D. (1995). "Business Process Re-engineering and Information Audits." <u>Managing Information,</u> 2 (6), 30-31.

- Herget, J. (1995). "The Cost of (Non)-Quality: Why it Matters for Information Providers." <u>FID News Bulletin,</u> 45 (5), 156-159.

- M'Pherson, P.K. (1994). "Accounting for the Value of Information." <u>Aslib Proceedings,</u> 46 (9), 203-215.

- M'Pherson, P.K. (1995). "Information Mastery." <u>Aslib Proceedings,</u> 47 (3), 109-116.

- Marchand, D. (1997). "Managing Strategic Intelligence." <u>In Financial Times Mastering Management,</u> Financial Times/Pitman.

- Miller, Jerry P. (1994). "The Relationship between Organizational Culture and Environmental Scanning: A Case Study." <u>Library Trends,</u> 43(2): 170-205.

- Orna, E. (2000). "The Human Face of Information Auditing." <u>Management Information,</u> 7 (4), 40-42.

- Porter, Michael E. (1979). "How Competitive Forces Shape Strategy." <u>Harvard Business Review,</u> 57(2): 137-45.

- Robertson, G. (1997). "Information Auditing: The Information Professional as Information Accountant." <u>Managing Information,</u> 4 (4), 31-35.

- Special Libraries Association. (1996). <u>The Information Audit: an SLA Information Kit</u>. SLA, Washington, DC.

- Subramanian, Ram, Nirmala Fernandes, and Earl Harper. (1993). "Environmental Scanning in U.S. Companies: Their Nature and Their Relationship to Performance." <u>Management International Review,</u> 33(3): 271-286.

- Valentin, E. K. (2001). "SWOT Analysis from A Resource-based View." <u>Journal of Marketing Theory and Practice,</u> 9(2): 54-69.

- Walters, Bruce A; Jiang, James J; Klein, Gary. (2003). "Strategic Information and Strategic Decision Making: The EIS/CEO Interface in Smaller Manufacturing Companies." <u>Information & Management,</u> 40(6): 487-495.

- Xu, Xianzhong M; Lehaney, Brian; Clarke, Steve; Duan, Yanqing. (2003). "Some UK and USA Comparisons of Executive Information Systems in Practice and Theory." <u>Journal of End User Computing,</u> 15(1), 1-19.

Websites:

- www.Brint.com

- www.CIO.com

- www.scip.org

- www.SLA.org

- www.WorldBank.com

- www.fuld.com

- www. cipher.sys.com

- www.aiip.org

<u>INFM 718 L</u>

<u>Assignments and Due Dates</u>

1. **Weekly Participation (WP)**

WP 1: Chapter 1	February 13
WP2: Chapter 2	February 20
WP 3: Chapter 3	February 27
WP4 : Chapter 4	March 06
WP 5: Chapter 5	March 13
WP 6: Chapter 6	March 27
WP 7: Chapter 7	April 03
WP 8: Chapter 8	April 10
WP 9: Chapter 9	April 17
WP10: Henczel's Information Audit Methodology	April 24

2. **Reading Commentaries (RC)**

RC # 1	February 27
RC # 2	April 03

3. **Assignments**

Assignment # 1	March 06
Assignment # 2	April 17

4. Project/Paper

Proposal	February 13
Oral Presentation	May 09
Written Report Submission	May 09

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Assignment # 1

SWOT Analysis

SWOT provides a clear understanding of Strengths, Weaknesses, Opportunities, and Threats in an organization. It is an effective way of examining those four areas to strengthen the organization. It will provide a blueprint pointing out where the organization is strong and where the opportunities exist to capitalize those strengths. The analysis will also reveal what areas in the organization are weak and need to be addressed to improve the existing condition. The analysis will also caution the organization the threats to watch out pointing out what needs to be done in order to sustain.

The purpose of this exercise is to gather, analyze and critically evaluate information to assist in all areas of decision making. This exercise is particularly useful in the environmental scanning area. Select an organization or a unit and carry out a SWOT analysis, collecting information to questions such as (depending on the organization, you may like to add your own questions):

- What are the positive characteristics and advantages?
- How do insiders perceive strengths?
- How do outsiders perceive strengths?
- What are the negative characteristics and disadvantages?
- What insiders think as weaknesses?
- What outsiders think as weaknesses?
- What areas should be avoided?
- What opportunities exist to improve?
- What trends can be followed to benefit?
- What factors block the progress?
- How are the competitors doing?
- Is technology affecting the establishment?
- Do cash-flow problems exist and affecting the growth?
- Do weaknesses affect performance?
- Etc.

Document strengths, weaknesses, opportunities and threats for your selected organization.   Based on the statements you made on the matrix, discuss the environmental scanning issues and recommend solutions to capitalize on strengths and opportunities and to control weaknesses and threats.

Due on March 06

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Assignment # 2

**Issues Management: Database Searching as an Approach to
Environmental Scanning***

Scanning the environment in which an organization exists for potential "threats and opportunities" is not a new idea, but the means and techniques with which to do this are continually developing. For-profit organizations need to detect emerging attitudes or technologies in order to take advantage of them. Not-for-profit organizations need to be aware of the attitudes held about the societal values they support or the values that are addressed by the services they provide.

Public relations and futurists are the two disciplines that seem to most closely "own" the notion of "issues management" as a guide for planning future change within an organization in response to outside (environmental) factors. Obviously, PR firms are often hired to handle this sort of assessment through different types of surveys to assess public opinion. Futurists often assemble experts in a particular area and get them to brainstorm about the potential issues that might be on the horizon. But the notion of environmental scanning, in whatever form it takes is one that is understood to be important across all elements of most large organizations. It also addresses the notions of building business or planning strategies through "scenario building" and/or "forecasting."

This handout and exercise is intended to show an approach that can best be delivered by online searching experts who are aware of the various "silos" of information that can be tapped to determine the movement of an issue through various databases and through detectable time periods.

> 1. Environmental Scanning

Identifying the beliefs and attitudes held by specific groups is a difficult undertaking. One advantage that electronic text provides is that it enables the sampling of a range of views by scanning (submitting a search strategy) against various types of databases. This approach enables a non-obtrusive approach to detecting what key groups are "discussing" about an issue. Developing a successful strategy that captures the issue with sufficient clarity and breadth is the difficult part of this approach.

> 2. Guidelines for Developing a Scanning Strategy

Selecting the various zones or "publics" that you wish to focus on or "listen to" may not be as difficult as you think. An early model by Molitor laid out a curved notion of the literatures through which an issue passes on it's way through society's attention. The following shows you that model as a list of specific types of literatures.
_____

MOLITOR'S MODEL-- HOW AN ISSUE/PROBLEM EMERGES IN SOCIETY:

       General Characteristics   **Specific Literature Types**

1.	VISIONARY	Artistic, poetic works
	UNINHIBITED	Science fiction
		Fringe media, underground
2.	RENDERING IDEA	Unpublished notes, speeches
	IDEA	Monographs
	TO SPECIFICS	Treatises
3.	ELABORATION	Science, Technical journals
	OF	Specialized, narrow-view
	DETAILS	journals
		Statistical documents
		Abstracting services
4.	DIFFUSION	
	AMONG	Egghead journals & mags
	OPINION	Insider newsletters
	LEADERS	Popular intellectual mags
5.	INSTITUTIONAL	Network communications
	RESPONSE	Journals for the cause
6.	MASS MEDIA	General interest pubs
		Condensation of gen. lit.
7.	POLITICIZING	Public opinion polls
	THE	Legislative reports
	ISSUE	governmental services
8.	DIGESTED	Books: Novels/social &
	FOR	Nonfiction general
	QUICK	Newspapers, natl/rural
	MASS	Network TV, natl/local
	CONSUMPTION	Radio
9.	EDUCATING	Education publications
	FOR A	Public television
	NEW NORM	
10.	HISTORICAL	Historical Analyses
	ANALYSIS	Doctoral theses

The idea behind Molitor's Model is to select an issue or some question of importance to you or to a particular market or service sector. Then you would actually formulate a question/query that will serve to sample a few of the databases available to us through Dialog, Lexis-Nexis, the Web, and others to provide mostly postings data (limit your strategy by year to see how the frequency of material/articles has changed over time). Examine the postings data, perhaps also looking

critically at a few items sampled from each year's retrieval, so you have both a frequency indicator and a sample/summary of what is being said or the "opinion sampled" concerning your question.

Frequencies that you identify for an issue over a time span within one of its literature bases can be looked at using the following trend analysis curves. If you were to plot your frequencies, these curve types have been found by futurist and forecasters who have done similar sampling and found these curves to re-occur time and again.

> • J-curve - the trend curve grows along a path like the letter J depicting exponential change.
>
> • S-curve - the trend curve grows along a path simulating the letter S depicting the trend reaching a limit. This type of curve was identified as frequently describing technology.
>
> • Step function curve - the trend follows a path like steps going in or out of a building.
>
> • Life cycle curve - the trend follows a curve path similar to the normal curve in statistics.
>
> • Cyclic curve - the trend curve follows approximately a repeated set of transitions, each with a similar shape but differing magnitudes. This type of curve usually requires quite a long sampling period, over many, many years, to detect.
>
> • Breakthrough trend curve - a current or new generation of change breaks though its past trend. This is also difficult to detect without quite a lot of data over a longer period of time.
>
> • Bumpy trend curve - much like a stock's price changes over time.

The exercise that follows is a work in progress. It depends heavily on the student

being able to develop an "issue."

Exercise

1.   Choose an issue or recent trend about which you know a little something. Examples might come from information technology realms (e.g., knowledge discovery in databases (KDD), nanotechnology, wireless communications, data warehouses, ontologies, semantic Web, etc.) or from science (e.g., global

warming, depletion of ozone, etc.) or from popular culture (e.g., rotisserie baseball, fashionistas, body piercing, etc.) or from politics/international relations (e.g., anthrax, disease of the recent past like HIV in a particularly alarming populations like teens, some aspect of alternative medicine, yoga, etc.)

Jot down a few free-text terms. Don't focus too heavily on finding controlled vocabulary because the issue may be too new for any to have been adopted..

1.   Choose a database that indexes more professional/practitioner material.

        List possible journals or databases _____

                                             _____

                                             _____

2.   Choose a database that indexes more popular material. You could try one of the full-text newspaper files, or a CNN transcripts file.

        List of possibles: _____   Terms: _____
                           _____   Terms:_____
                           _____   Terms:_____
                           _____   Terms:_____
                           _____   Terms_____

For each of these categories above, use the best search terms you can find for your issue. You can start with the terms you can think of and then expand or check descriptions or titles to find more. Don't try to achieve a complex strategy across databases. You don't need to find all there is on your issue, just a fair and representative sample. See if you can record the postings below … limit the set to year by year postings. Examine the last item in a general search to see when it first gets mentioned and in what sort of publication.

 Chart for Issue:
_____

Description of the issue's importance or who might want to know about it:

_____
_____
_____
_____
_____

Category	Data base	Search term(s)	Postings entered here by year					
			96	97	98	99	00	01
Egg-head								
Profession								
Popular								
Gov'ment								
Education								
Due on April 17								