

# Drivers' Ed for the Information Highway: A Required Course For MBA Students

**ABSTRACT:** The paper describes a required MBA course covering business information sources offered in the School of Management of the University of Alaska, Fairbanks. This course is unique in that it focuses on information sources external to the firm that are of use to managers. Course goals, history, contents, and conclusions are described.

**Prof. Lisa M. Lehman**  
Department of Library Science  
University of Alaska Fairbanks,  
Fairbanks, AK 99775  
fflml@aurora.alaska.edu

**KEYWORDS:** *MBA curriculum, Internet, external information, information literacy*

## INTRODUCTION

This paper describes a course for MBA students in sources of business information. The course is designed to help these students find sources of information external to the organization and to become intelligent managers and consumers of such data. Specifically, the course focuses on information outside the firm, whether in the form of library resources or online resources, and the management and presentation of data derived from these resources. The course has been taught at the University of Alaska Graduate School of Management for the past three years.

A unique aspect of this course is that it is required for all MBA students at the University of Alaska Fairbanks. Students take this course after finishing the MBA core because functional knowledge of areas such as marketing and finance are prerequisites for the course. The information literacy provided by this course is used in other advanced courses in the program. It also serves as the first integrative course within the MBA program.

## BACKGROUND

There are three reasons for offering the course in its current form. As society has become more international and as we now become more and more of an information

rather than a production oriented society, managers' need for data outside the firm has increased. This is coupled with a historical lack of attention paid within MIS, in particular, and business schools in general, to the information needs of higher level management [1]. Second, many of the students taking this course are expected to remain in the state of Alaska which is geographically separated from many of the information resources available to managers in the lower 48 states. Alaska business people are forced to rely much more on online resources and distance delivery of information than might be the case in, for example, New York or San Francisco. Finally, the exponential growth in the availability of online resources requires attention. The Internet links some 25,000 computer networks with an estimated 20 million users. 63% of those networks are operated by businesses [2]. The Internet is, of course, only one of many online resources available. Services such as CompuServe and America Online have shown comparable levels of growth [3].

In terms of history, the course is derived from two previous courses offered at the University of Alaska Fairbanks. The first is a research tools course that was formerly offered for MBA students. At that time, MBA students were required to write a final paper and perform a research project. At the time

this requirement was abolished it became evident that the research tools, while appropriate for doctoral students, did not meet the needs of MBA students. The other course that grew into the current one was offered in Library Science as a business data sources course.

## UNIQUE ASPECTS OF THIS COURSE

Traditionally, information systems curricula have focused on data that is generated by transaction processing within the firm and on managers' needs for a summarization of this data. While lip-service is given to executive information systems, existing courses treating these systems ignore the research that has been done on top management information needs, pointing out that such needs are primarily external to the firm. This course focuses on data and information needs which are much closer to those needed by middle and high level managers with these needs determined not only by research [1,4] but also by personal experience of the faculty teaching the course. The course covers the use of online resources, both the Internet and commercial services, and is highly practice oriented rather than being theory or research oriented.

There are five basic areas that have been

combined to produce this course. First are materials from the traditional course in research methods primarily involving survey sampling and measurement. Second is extensive material incorporated from library science. Third are topics from management information systems, specifically computer literacy and executive information systems. Fourth is telecommunications, and finally, business policy.

Because of the interdisciplinary nature of the course, the skill set required for teaching it is one that is not usually found in a single faculty member. At the University of Alaska, this course is taught by two faculty members. One is simultaneously the Executive Director for the University of Alaska Computer Network and a faculty member in information systems, and the other is a faculty member in the library science program.

The course also makes extensive use of electronic resources for course delivery and communication with the instructors. Because both instructors for this course have full time administrative positions and because many of the students likewise have full time jobs and are taking the course at night, communication has historically been a problem. All of the course assignments, much of the review of assignments, and many of the course materials are distributed by e-mail. Other course materials are distributed through computer files available for downloading by the students. This is particularly convenient for those students who travel as a result of their jobs and who can therefore continue to work on assignments.

A final unique aspect of the course is the exceedingly rapid change in the materials which the course covers. Internet growth over the last few years has been exponential. Moreover, new features have come into being very rapidly, features such as Mosaic, Gopher, Wide Area Information Systems, and the World Wide Web. In addition, organization of the Internet is politely referred to as chaotic and therefore, the material available has changed rapidly, even within the course of the semester. Also, because this course is not widely taught, there are no text books available covering material outside those of traditional business research courses. Therefore, we are forced to deal with a lack of text books, significant change in online systems from month to month, and a lag between data becoming available and that availability being documented.

Figure 1. COURSE SYLLABUS

School of Management University of Alaska Fairbanks BA 691 Sources of Business Information Fall 1993			
<b>Instructors:</b>	John A. Lehman Prof. of AIS, UA Executive Director for Information Technology	Lisa M. Lehman Asst. Prof. of Library Science	
<b>TEXTS:</b>	Handouts and on-line files		
<b>COURSE DESCRIPTION:</b>	This course will help MBA students find sources of information external to the organization and to become intelligent managers and consumers of such data. The course is case oriented; major topics will be covered both in lecture and as cases.		
<b>GRADING:</b>	Projects and cases	60%	
	Final project	40%	
<b>Date</b>	<b>Topic</b>	<b>Instructor</b>	<b>Assignment</b>
9/2	Introduction	Both	
9/7	Online information sources: Compuserve	JAL	
9/9	Competitive information	LML	Email
9/14	Internet, Usenet and remote catalogs	Both	PC files
9/16	Finding Internet resources	JAL	Telnet & library cat.
9/21	Historical and qualitative data	Both	Usenet
9/23	Internet resources case	Both	Case: usenet
9/28	Company information (1)	LML	
9/30	Other online information sources	Both	Gopher
10/5	Demographic statistics	LML	
10/7	Finding information on companies case	Both	Case
10/12	Company information (2)	Guest	
10/14	Industry information	LML	
10/19	Small business information sources	Guest	
10/21	Sampling	JAL	
10/26	Demographics case	LML	Case
10/28	Measurement and scale construction	JAL	
11/2	Reports and presentations	Guest	
11/4	Sampling strategy case	JAL	Case
11/9	Survey research	JAL	
11/11	Measurement case	Both	Case
11/16	Review of relevant statistics	JAL	
11/18	Asking the right questions case	Both	Case
11/23	No class		
11/25	Thanksgiving		
11/30	Final reports	Presentation	LML
12/2	Final reports	Presentation	LML
12/7	Final reports	Presentation	LML
12/9	Final reports	Presentation	LML

### COURSE TOPICS

There are eight major topics dealt with in this course: computer tools; local library resources; Internet library resources; Internet data sources; commercial data sources; primary data gathering; data reduction and summary; and data presentation. These are outlined in the course syllabus shown in Figure 1.

Computer tools deals with the use of terminal emulation on personal computers; electronic mail; the use of VMS and UNIX systems; file transfer; and Internet tools, specifically Telnet, FTP, News, Mosaic, Gopher, Wais, and the World Wide Web. Historically, the Internet tools section has

been taught using online resources and Macintosh-based computer aided instruction. We are planning to incorporate online text books from NorthWestNet next year.

The second section of the course involves the use of local library resources, the use of the online catalog, CD ROM data bases, and other network resources available through the library. This is essentially the material covered in the undergraduate one-credit introduction to library resources course, although it is more concentrated and focuses more intensely on data and information resources needed by management students. Specifically, corporate information and gov-

Figure 2. SAMPLE ASSIGNMENT

**BA 691 - Information on Companies**

Please find all of the information you can on K-Mart and Walmart with respect to:

- Corporate strategy
- Marketing
- Financial strategy and condition
- Fit with Fairbanks economy and demographics.

Based on an analysis of this information, do you expect K-Mart to meet corporate expectations in the Fairbanks market? Do you expect that a Walmart would meet corporate expectations in the Fairbanks market? How does this compare (for both organizations) with the Anchorage market?

**Deliverables:**

- Raw data/information which you have gathered
- Conclusions, and the reasoning behind them.

Figure 3. SAMPLE ASSIGNMENT

**BA 691 - Marketing on the Internet**

Using both periodical literature and Usenet, investigate the issue of marketing and advertising on the Internet. Be prepared to discuss the following:

- Internet corporate culture and marketing
- Instances of successful marketing
- Instances of unsuccessful marketing
- Differences between the Internet and other on-line services
- Differences between the Internet and Videotext
- Likely changes as the Internet becomes more commercial

Assume that you have just developed a new Windows program to perform on-line translation between English and Russian for users of network and communication software. Prepare a brief description of how you might use the Internet to successfully market your product.

ernment documentation as well as census data are emphasized much more than in the corresponding undergraduate course.

The next topic, Internet library resources, covers library resources available elsewhere in the world through the Internet. In this section, students are taught to use both American university and international catalogs. They are also introduced to campus wide information systems and the use of library data bases at institutions other than the University of Alaska.

Students are then introduced to Internet data sources not directly connected to libraries. They learn to use the Archie file server and archives; several Gopher servers; and the Wide Area Information Services and the World Wide Web. Typical assignments are illustrated in figures 2 and 3.

In addition to Internet resources, which have historically focused on scientific, technical, and computer rather than

business data, students are taught to use commercial data sources. CompuServe has been the service most emphasized because until very recently it was the only one accessible through a local dial-up number from Alaska. Students are introduced to the other major consumer services and are also taught about the use of online commercial database vendors such as Dialog. Generally these are accessed through the library rather than directly.

After learning about online resources and secondary sources the students learn primary data gathering techniques for a survey design, sampling, and measurement. This is traditional material taught in the traditional way and is unique only in respect to its integration with the other course material.

At this point, students generally discover that they have far more data than they are able to assimilate or use, let alone commu-

nicate, and hence realize the importance of data reduction and summary. The course includes material on statistical, graphical and database oriented techniques to reduce and summarize data.

The final topic, oral and written presentation, emphasizes the use of visual aids and illustration in order to present large quantities of data in a time efficient and effective manner.

**WHAT WE HAVE LEARNED FROM TEACHING THIS MATERIAL**

After three years of teaching this course, several basic problems have become apparent: problems with computers; frustration with incomplete services; poor organization of resources; and problems with data overload.

Although students are theoretically computer literate at the beginning of this course, having passed requirements both in computer literacy and introduction to management information systems, they generally have little or no experience in working with larger computers, specifically the Digital Equipment Corporation VAX, and UNIX based systems. In addition, they tend to have a very weak understanding of telecommunications. This is particularly difficult as they attempt to transfer files between remote systems and their local computers. The wide variances in individual computer configurations worsens the situation. The University of Alaska does not have a requirement for computer ownership although in the MBA program approximately 90% of our students do have access to a computer, either at home or at work. Unfortunately there is no standardization among these computers nor is there a standardization in the telecommunications programs that students use. Our response in the course has been to hand out copies of shareware or public domain telecommunications programs that we support and to allow students to use whatever other programs they wish to with the provision that neither of the instructors is likely to be able to answer detailed questions on these. This approach has not been satisfactory because many of the students prefer to use more full featured programs.

An additional problem is the lack of electronic mail standards. This is similar to the individual configuration problem in that students are using electronic mail on more than one system and the instructors must answer questions on different mail systems. We are beginning to see problems with the

use or non use of multimedia extensions that have not been standardized among the university and other Internet mail systems. Those students who use mail systems that do have such extensions are unable to communicate effectively with those who do not.

Incomplete services available over the network, specifically the Internet, are another source of frustration. While most library catalogs are currently online, the underlying library resources for the most part are still not digitized. Where they are digitized, the databases that hold the digital data are not connected to the library catalogs so students must use interlibrary loan to obtain resources. Moreover, many library databases that have been digitized are restricted in access due to license terms, so students are able to find information at other libraries but not use it. This has resulted in at least one student complaining that the major benefit of the Internet is to find all of the information that the University of Alaska does not have.

A related problem is that of poor organization of resources, primarily on the Internet, but to a lesser extent with commercial services such as CompuServe. Because the Internet is a network of uncoordinated users providing data as they see fit there is minimal organization to such data. In fact, the 1990's have been described as the full employment decade for librarians due to the need to organize and navigate the Internet. At the moment, word of mouth serves as perhaps one of the best sources for finding unusual resources.

The final problem is data overload. While using the tools available with the Internet and other online resources, it is easy to become overwhelmed with resources. It is not unusual for students doing research on CD ROM databases to find thousands of applicable articles and for the supporting

data for student cases to number in the hundreds of pages. The students have a great deal of trouble deciding what materials they should acquire and having acquired it are unable to deal with it. Hence the topics of data summarization and data reduction turn out to be one of the most important parts of the course, although these tools are not as highly developed as we would like.

### FUTURE DIRECTIONS

The increased use of navigational tools, primarily to navigate the World Wide Web, will make it much easier for students to find resources as well as help impose some structure on the chaos that makes up the Internet. This, unfortunately, requires more powerful systems and requires more staff time to develop and will probably take several years to integrate into the course. Comparable tools are, of course, available for systems such as CompuServe, and we plan to make much greater use of them.

We plan to increase internationalization of the course. Students are now required to search foreign library catalogs. We plan to introduce much more use of foreign data resources as well as a provision for searching data bases in non-English languages. This is particularly useful because we have a large number of Russian and Asian students in the program and materials in these languages are becoming more widely available.

We will increase the use of packaged instruction both for basic telecommunication and for Internet tool use. Packaged instruction will come partly from NorthWestNet, partly from commercial sources, and partly in-house. We hope to coordinate this with increased teaching of Internet tool use not only for MBA students but also for the university community as a whole.

We plan to increase standardization of

tools. The University of Alaska Computer Network is currently developing standardized Internet packages for each of the common platforms so that students will all be using the same tools for the same platform. This will obviously help the use of packaged instruction as well as reducing the support costs both for the instructors and for the computer support staff.

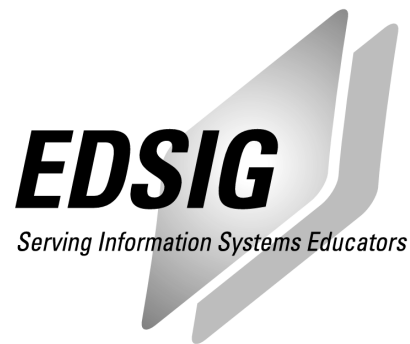
One of the major problems that has arisen from this course is that our MBA students are now far more information literate than most faculty. At the request of some of these faculty members, we plan to develop short versions of the course both for School of Management faculty and for faculty in other disciplines so that as the students cruise the information highway in their hot rods the faculty will not be left behind in the horse and buggy age.

### REFERENCES

1. McKinnon, Sharon M. and William J. Bruns, Jr., *The Information Mosaic*, Boston: Harvard Business School Press, 1992.
2. Tetzeli, Rick, "The Internet and Your Business," *Fortune*, March 7, 1994, p. 86.
3. Beacham, Frank and Scott Donaton, "America Online Pulls Back," *Advertising Age*, February 7, 1994, p. 19.
4. Mintzberg, Henry, *The Nature of Managerial Work*, New York: Harper & Row, 1973.

### Author's Biography

Lisa M. Lehman is an Assistant Professor of Library Science at the University of Alaska Fairbanks where she teaches courses in business information sources. Her research interests include competitive intelligence, computer-based sources of external information, and information literacy.



### **STATEMENT OF PEER REVIEW INTEGRITY**

All papers published in the Journal of Information Systems Education have undergone rigorous peer review. This includes an initial editor screening and double-blind refereeing by three or more expert referees.

Copyright ©1995 by the Information Systems & Computing Academic Professionals, Inc. (ISCAP). Permission to make digital or hard copies of all or part of this journal for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial use. All copies must bear this notice and full citation. Permission from the Editor is required to post to servers, redistribute to lists, or utilize in a for-profit or commercial use. Permission requests should be sent to the Editor-in-Chief, Journal of Information Systems Education, [editor@jise.org](mailto:editor@jise.org).

ISSN 1055-3096