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E-Business Curriculum In Action at the University of Nebraska-Lincoln

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Abstract

Offering e-business/e-commerce courses no longer provides competitive advantages. They are now a competitive necessity. Schools already offering the courses are continuously refining the curriculum to keep up with the innovations in the area. Schools without these courses are frantically trying to put one together. Irrespective of whether a school is a leader or a lagger, all schools face the same problem -- how to keep the e-business curriculum up-to-date and relevant to industry. This article looks at the e-business curriculum at the University of Nebraska-Lincoln. It presents our curriculum objectives and the lessons learned.

Introduction

E-business involves the buying, selling, or exchange of products, services, and information via computer networks. This includes business-to-consumer (B2C), business-to-business (B2B), and intra-organizational e-business (Turban, Lee, King, and Chung 2000).

E-business is here to stay and it is changing the shape of competition, the speed of action, and the nature of leadership (Kalakota and Robinson 2000). Almost all organizations have recognized the tremendous growth potential that e-business offers with regard to new approaches to doing business and new ways of reaching customers. This is seen, for example, by the large number of startups that have developed new, innovative approaches to doing business. Even well-established companies have incorporated e-business into their mainstream competitive strategies. In doing so, they have reengineered their companies to compete more effectively in the electronic age. Companies that remain at the forefront of this trend are those that continue to innovate and to proactively seek out new opportunities to leverage Internet-based technologies to achieve competitive advantage. Therefore, it is essential for students entering the workplace, or for those who have already undertaken a business career, to understand the basics of e-business and how to take advantage of the opportunities offered by new, Internet-based technologies. Because of the demand from students and industry, the University of Nebraska-

Lincoln (UNL) began offering an e-business course in Spring 2000.

Our Spring 2000 E-business Curriculum

The objective of the course is to provide a foundation to prepare students, as future managers, to play leading roles in the application and management of e-business. Specifically, we want students to learn:

- (i) basic terminology and concepts of e-business
- (ii) legal and economic impacts of e-business
- (iii) functions and structure of e-business (e.g., advertising and marketing research, security, payment systems, retailing and business models, basic software technologies)
- (iv) similarities and differences between business-to-consumer (B2C) and business-to-business (B2B) e-business
- (v) how technologies such as intranets and extranets are used to conduct e-business
- (vi) business/strategic planning in e-business

To achieve the above stated objectives, a variety of approaches were employed in our spring curriculum:

- (i) Lectures and readings expose students to business, economic, strategic, and managerial issues in e-business.
- (ii) Class discussions allow students to apply these concepts in a business environment.
- (iii) Student e-business reports keep everyone updated on the latest events in the field.
- (iv) Websites design and creation expose students to the basics of Web technologies.
- (v) A term project, including an e-business plan and a prototype e-business site, allows students to integrate and implement fundamental e-business concepts and strategies

With regard to points i and ii above, we evaluated a number of textbooks (Kalakota & Whinston 1997, 2000, Fingar *et al.* 2000, Adam *et al.* 1999, Amor 2000, Schneider & Perry 2000, Turban *et al.* 2000). Ultimately, we decided to go with the book by Turban *et al.* (2000) titled *Electronic Commerce: A Managerial Perspective*. The text addresses most of the topics that are of interest in this course. In addition, it is fairly easy to read for

students new to e-business, provides a variety of hands-on Web-based assignments, and raises several important issues that stimulate in-class discussions.

Postmortem

The following sections provide our assessment of teaching the e-business course for the first time.

Mixing Undergraduate and Graduate students

The course was geared toward last-semester undergraduate MIS majors and MIS graduate students. The mixing of undergraduate and graduate students in a single class posed some challenges. On the bright side, graduate students brought with them business experience, which contributed to the liveliness of classroom discussion. Typically, the disparity in business knowledge between undergraduate and graduate students poses some predicaments in the design of a curriculum. Fortunately, e-business is a relatively new field. Most graduate students in the class had relatively little exposure to e-business topics, too. Because of this, there was hardly any difference between undergraduate and graduate students in terms of e-business domain-specific knowledge. Of course, graduate students were still stronger than undergraduate students in terms of general business knowledge. To alleviate the problem, we focused the classroom discussion only on e-business topics.

Meeting Students' Learning Objectives

As we look back, we believe that we had been successful on some aspects, but could improve on others. For example, with regard to management related issues (e.g., e-business overview, trends, critical success factors, e-business business impacts, and strategies), the “gulf” that separated our teaching from students’ learning was relatively narrow.

On the other hand, the “gulf” was wider when it came to technological skill development. We had little opportunity to provide the type of detailed technical training that students often requested and that, arguably, might benefit them in a concrete way during their careers. One of the main difficulties here was the limited amount of time available within a single semester to cover both management and technically-oriented topics. Our inclination had been to focus on management (business) related issues in this course. Another reason for the “gulf” was the often unrealistic expectation of students. They expected to learn Java, XML, CORBA, etc. in a single semester together with general e-business knowledge. In the future, we may expand our e-business offerings to include an advanced course on technology-related issues.

Training Technopreneurs and Intrapreneurs

The course required the students to be involved in a business planning/systems development project. The project required them to apply many of the business concepts discussed in earlier segments of the course by developing an e-commerce business plan. Students, working in teams of 3-4 members each, acted as entrepreneurs to develop business plans for “start-up” electronic businesses. They were instructed to play the roles of entrepreneurs who were seeking funding from venture capitalists. Each team presented its plan to the venture capitalists (i.e., the rest of the class) in hopes of convincing them that the venture was indeed viable. The “venture capitalists’ ” responsibility was to critique the plan and to make a well-reasoned and well-argued investment decision.

Developing E-Business Systems

As part of the business plan, student teams were required to demonstrate a prototype e-business software application. For our purposes, we selected Macromedia’s Drumbeat 2000 eCommerce Edition. Drumbeat 2000 is highly regarded as a tool for creating e-commerce-enabled Web sites. It provides the ability to create special e-business functions such as a shopping cart and to add database integration. Since this was the first time we taught this course, we made Drumbeat available to students and suggested that they learn to use it for their systems development task. However, the use of Drumbeat was not mandatory for the project. Our decision derived from one limitation of the course. Because this was the first time we used Drumbeat, there was not a support structure in place to train students to use the software. Even though there was technical support to help them troubleshoot and solve problems after they got started, such support was provided by only one graduate assistant. As an alternative to Drumbeat 2000, we allowed students to use standard Web development applications (e.g., Front Page 2000). In these cases, some of the functionality would be missing (e.g., database integration). However, since the sites were for demonstration purposes only, and did not need to be fully-functional, this was deemed an acceptable alternative.

Possible Future Improvements

Separating Undergraduate and Graduate Students

Because of the different level of maturity and industry experience, it might be better to separate the undergraduate from the graduate students. If this is possible, we would be able to tailor the classroom material to the two groups. For undergraduate students, we would like to emphasize more on hands-on experience and expose them to different e-business software and

packages. For graduate students, we would like to focus more on managerial and strategic issues in e-business.

Having said that, this is not likely to happen in the near future. Although separating the two groups of students will lead to a better classroom experience, the university is constrained by resources and the number of MIS professors (similar to many other schools). Until the resource problem is resolved, if ever, we will need to operate within the constraints. So, in the meantime, we simply have to provide the best education to the students taking into account that the classroom will likely be filled by both undergraduate and graduate students.

Managing Expectations

Earlier, we mentioned the “gulf” between the objectives of the course and the students’ learning objectives in terms of technically-oriented content. We can alleviate this problem by better managing the expectations of the students. This can be achieved by telling the students what kind of technical skills they can expect to acquire in this course. This needs to be communicated in the first class and again in the middle of the semester. Also, we need to educate the students that some of their expectations are unrealistic – e.g., mastering Java, XML, CORBA, DCOM, etc. in the course. Each of these can easily be a course on its own.

Integrating Entrepreneurship Courses with E-business

The Department of Management at UNL has a very strong entrepreneurship program. The program was listed as one of the top 25 entrepreneurship programs in the nation by the Success magazine. Since one of the objectives of the e-business curriculum is to train technopreneurs and intrapreneurs, we would like to incorporate some of the foundation courses in the entrepreneurship program as prerequisites for the e-business course. In this way, less time will be needed to instruct the students on the process of writing a business plan and the approaches to take to solicit funding from venture capitalists. On the other hand, the e-business course can be part of the entrepreneurship program, as many of the entrepreneur-wannabes have e-business in mind.

Making Drumbeat Compulsory

In future e-business courses, after we have developed more experience using Drumbeat 2000, we will implement a training and support structure that will allow us to require this software as the *de facto* standard for student projects. We believe, however, that students will need substantial training and support if we are to expect them to feel confident enough to use this software and to learn it sufficiently to be able to develop their own

prototype e-business sites. This type of training and support will provide the added benefit of allowing students to develop their skills in a hands-on systems development project using an actual e-business software application.

Creating a E-Business Program

Teaching e-business in a single course is like attempting to teach accounting in one course. E-business needs to be integrated into the MIS curriculum and business school curriculum. It needs to draw upon other business courses such as business law, marketing, advertising, accounting, finance, organizational behavior, and strategy. E-business is impacting every aspect of doing business. Courses such as Internet marketing, and e-business strategy are important component of a cohesive program. In addition, technical courses that cover TCP/IP, HTML, Java, etc. are important to provide students the technical foundation.

In short, e-business is not just a topic in business. It is a whole new way of doing business. To teach that, we need to have a cohesive and an integrated e-business program. Some ideas for the e-business program will be presented at the conference.

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