

AN INVESTIGATION OF E-COMMERCE CURRICULUMS IN NATIONAL COLLEGES OF BUSINESS

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ABSTRACT

The purpose of this paper was to investigate the perception of faculty members regarding e-commerce curriculums in colleges of business. Approximately 450 faculty members from universities around the nation were randomly chosen for the survey. Seventy faculty members returned the questionnaire, which represents approximately a fifteen percent response rate.

INTRODUCTION

E-commerce is emerging as an increasingly popular topic of business schools. Within a context of rapid technological change and shifting market conditions, the American higher education system is challenged with providing new educational opportunities to match so called new dot.com economics. Many educational institutions are responding to this challenge by developing e-commerce courses or programs.

While all of the reasons for offering e-commerce programs are commendable and are receiving much attention, there are many formidable challenges facing all types of campuses as information technology is gradually changing traditional pedagogical approaches to education. What e-commerce courses should be offered? What are the best practices in integrating e-commerce courses into other majors in higher education? What issues are involved when implementing an e-commerce program? If a college or university is on the verge of creating an e-commerce program, what issues should be considered? While a fair amount of case studies in e-commerce has been discussed, few new studies have concentrated on the curriculum issues of e-commerce.

The purpose of this paper was to investigate the perceptions of college faculty on e-commerce curriculum. This study provides information related to the following research questions:

1. How many colleges/universities offer a course in e-commerce?
2. If a college/university offers a course in e-commerce, at which level is it taught?
3. If e-commerce is taught at a college/university, is it a part of an E-Commerce major or integrated into other majors?
4. Which topics should be taught in an e-commerce course in the college of business?

LITERATURE REVIEW

As if business students didn't have enough to learn and absorb, the dawning of e-commerce has created another set of rules to be studied. Colleges and universities are scrambling to prepare their graduates for business in the new millennium by designing courses and programs in e-commerce at a record pace.

Some universities are offering e-commerce concentrations in the MBA curriculum and others are offering something more controversial—an actual MS degree in e-commerce. There's a lot of debate swirling around the best way to introduce e-commerce into a business curriculum and whether it should be offered first at the graduate level before offering it at the undergraduate level. Both students and employers are taking a long, hard look at what's going into these courses or degrees—and what benefits, if any, will emerge. The bottom line is that companies are desperate for e-commerce expertise.

As business education reshapes its curriculum to meet the new economy, the sense of urgency may be diverting attention from the real question: Which schools are preparing its students to meet an electronic future? And the answer is important for both employees contemplating career moves and those in charge of hiring for their companies' online effort. Employers are wondering what kind of education to seek in their applicants.

Many academic institutions are betting that e-commerce training will be just the thing to meet the sky-high demand for Web-conversant executives. But critics of the trend of separate e-commerce degree programs think universities are exploiting the popularity and coolness of e-commerce, when in fact what students really need is on-the-job training or a basic grounding in business. According to Roy Moore, director of the Baccalaureate/Graduate Degree Commission of the Association of Collegiate Business Schools and Programs (ACBSP), an accreditation association for business education in Overland Park, Kansas, schools are using the e-commerce hype to line their wallets rather than thinking carefully about what students need. "E-commerce is being blown up to be more than it is," he says. "I'm not sure it deserves a separate discipline. I see it more as a money-making gimmick." (1). And he may have a point. After all, graduate schools are not educating students out of the goodness of their hearts. The more prospective students universities attract, the more selective they can be. As the caliber of the student grows, so too does the attention of recruiters, raising a school's standing on those coveted best-of-lists. So there's a lot of incentive for both schools and students to buy into the hype.

Despite the uncertainty, some schools have already implemented various forms of e-commerce education. "We're not afforded the luxury of time," said Pamela Lewis, dean of Drexel University's LeBow College of Business. "We've had to move at the speed of sound." Drexel, which began offering an e-commerce concentration within its MBA program in January 2000, was awarded a \$1 million grant from Safeguard Scientifics to establish the Center for e-commerce Management. The university also received \$50,000 in cash and \$100,000 in software, training, and consulting for the center. Because e-commerce encompasses so many different fields, Lewis said grant money was allocated to professors in seven different business-related disciplines to develop specialized e-commerce classes in those areas" (3).

The University of Pennsylvania's Wharton School has been offering an e-commerce major for MBA candidates for the past two years. Wharton's program ranked 12th on the Computerworld top 25 "Techno MBA programs", which refers to hybrid programs that combine traditional core business courses with information technology and real-world problem solving. Wharton's newest e-commerce course, introduced in the fall of 2000, features lectures by chief executives of six major Internet companies (3).

Penn State's Great Valley campus in Malvern, which offers only graduate programs, strives to emphasize technology, innovation, and e-commerce in all its programs, said Carla Holway, director of graduate program administration at the campus. Not only have e-commerce courses been added at the school, but existing courses have adopted segments on e-commerce topics, such as network security, software applications, information architecture and design, and database and knowledge management, said Holway. "Because e-commerce is totally changing the way business does business, we are integrating e-commerce into the coursework in many areas," she said (3).

Michigan State University in East Lansing implemented an e-commerce graduate program in the fall of 1999. Robert Nason, chair of MSU's department of Marketing, said the new program was launched with little fanfare to let the school focus on getting it off the ground. "Even without a lot of publicity, people are talking about it—and there's no shortage of applicants for the program." "There's no question it's a hot topic among university management education programs," said Jay Kridel, director of professional development for the AACSB-The International Association for Management Education in St. Louis, a nonprofit organization that works to promote and improve higher education in business administration and management. "It seems to be as big of a topic in higher education as business globalization was in the early '90's." (2). "Firms are facing a critical shortage of professionals that not only understand how to use technology in the marketing process, but also how to strategically leverage marketing technology to add value to corporations," said John Costello, a MSU graduate and CEO of e-tailer MVP.com (2).

"It's very encouraging and exciting that our leading academic institutions understand the shifts occurring in business, and they are looking to prepare their students for that brave new world," said David Thornburg, executive director of the Pennsylvania Economy League (3).

The Leading Schools Offering E-Commerce Program

Table 1 shows several leading schools which offer e-commerce programs. This table is ranked according to the survey from U.S New and World Report (5). Carnegie Mellon University, ranked as the top of the business schools, offers a full sequence of e-commerce courses for all business majors, but it does not define a separate track or major in e-commerce. We will further discuss issues concerning the e-commerce curriculum in the research section.

Topics Which Should Be Taught in E-commerce Courses

Although e-commerce contains many topics, one of the leading e-commerce textbooks, written by Turban, Lee, King, and Chung (4), covers the following topics: 1) foundations of e-commerce, 2)

Table 1. Leading Schools Which Offer E-commerce Programs

Rank	Universities/Colleges
1	Carnegie Mellon University (PA)
1	Massachusetts Institute of Technology (Sloan)
3	University of Texas–Austin (McCombs)
4	University of Pennsylvania (Wharton)
5	University of California–Berkeley (Haas)
6	Emory University (Goizueta)(GA)
7	University of Michigan–Ann Arbor
8	Georgia State University (Robinson)
8	Indiana University–Bloomington (Kelley)
8	New York University (Stern)
8	Texas Christian University (Neeley)
8	University of Maryland–College Park (Smith)
13	Bentley College (MA)

retailing in e-commerce, 3) Internet consumers and market research, 4) advertisement in e-commerce, 5) e-commerce for service industries, 6) business-to-business e-commerce, 7) Intranet and extranet, 8) electronic payment systems, 9) e-commerce strategy and implementation, 10) legal issues in e-commerce, 11) infrastructure issues for e-commerce. Many of these same topics are presented in other e-commerce textbooks. These topics reflect a managerial perspective of e-commerce. Because e-commerce is such a diverse topic, however, other technical topics could be introduced, such as how to build a web site, Java programming, and telecommunications hardware and software. These topics may be very important for those schools offering an e-commerce course or concentration in the CIS major.

RESEARCH METHODOLOGY

The primary purpose of this research was to investigate the faculty members' perceptions regarding the e-commerce curriculum. A mail survey was used to gather this research. Four hundred and fifty faculty members in the college/universities around the nation were chosen for the survey between October 2000 and December 2000. Faculty members, ranging from assistant to full professors, were randomly chosen for the survey. A pilot test was given to faculty members in a regional AACSB business school to test the appropriateness of the questionnaire. All research questions will be answered using a frequency distribution analysis from the survey.

RESULTS AND DATA ANALYSIS

Seventy faculty members completed the survey and returned it, resulting in a response rate of 16%. Fifty-five percent of the faculty members who answered the questionnaire ranged in age from 36 to 55. Thirty-one percent of the faculty member were older than 55 and four were younger than 35. Thirty-six

percent of faculty members were professors, twenty-seven percent were associate professors, seventeen percent were assistant professors, seven percent were lecture or instructors, and six percent were part-time faculty members. Sixty-six percent of the faculty members were male and twenty-seven percent of faculty members were female. The remaining participants did not identify themselves.

Results

Research Question One

The first question asked the respondents whether their schools offered a course in e-commerce. Table 1 shows the frequency distribution regarding the different courses. It appears that almost half of the schools (48.6%) have offered a course in e-commerce. Nine faculty members said their schools will offer an e-commerce course in the future.

Table 1
Does your College/University Offer a Course in E-Commerce?

	Frequency	Percentage
Yes	34	48.60%
No	21	30%
Not yet, but will in the future	9	12.90%
Missing	6	8.60%
Total	70	100%

Research Question Two

Table 2 shows the level where the e-commerce courses were offered at the college/university. Twenty percent of faculty responded said that the e-commerce courses were offered only at the undergraduate level. Only thirteen percent were offered at the graduate levels. Twenty percent were taught at both graduate and undergraduate levels.

Table 2
If a College/University Offers a Course in E-Commerce, at Which Level Is it Taught?

	Frequency	Percentage
Undergraduate level	14	20%
Graduate level	9	12.90%
Taught at both levels	15	21.40%
Others	32	45.70%
Total	38	100%

Research Question Three

Table 3 shows whether the e-commerce course should be taught as a separate course, as part of an e-commerce major, or integrated into other courses. Most faculty members responded (27.1%) said that their schools offer an e-commerce course, but not a major.

Table 3
The Configuration of a University-Level E-Commerce Course

	Frequency	Percentage	Rank
A series of several courses comprising an e-commerce major in the College of Business	12	17.10%	2
A new course, but <u>not</u> within an e-commerce major.	19	27.10%	1
A new topic which is integrated into several existing courses, such as Marketing, Management, MIS, Finance, etc.	10	14.30%	3
A combination of the above.	4	5.70%	4
Should not be taught because it's a fad that will fade.	0	0%	6
Other	2	2.90%	5

Research Question Four

Table 4 presents the e-commerce topics that should be taught in an e-commerce course. The top five (except Other Topics) topics are: Internet marketing, Internet technology, Internet business models, ethical & social impact of e-commerce, and Internet security. Enterprise Resource

Table 4
What Topics Should Be Taught in an E-Commerce Course in the College of Business?

	Frequency	Percentage	Rank
Internet technology and capabilities	41	58.6%	3
Systems Analysis & Design	15	21.4%	11
Internet Business Models	40	57.1%	4
Internet Security	34	48.6%	6
Enterprise Resource Planning	30	42.9%	7
Business Process Reengineering	19	27.1%	10
Telecommunications and Networks	25	35.7%	9
Internet Marketing	47	67.1%	1

Database management	28	40.0%	8
Intranets & Extranets	25	35.7%	9
Ethical & Social Impact of E-commerce	38	54.3%	5
Other topics	43	61.4%	2

Planning (ERP) is ranked after Internet security partly because it plays an important role in B2B e-commerce and supply chain management.

CONCLUSIONS

Most of the faculty surveyed said that the e-commerce course should be offered at their college/universities. Even though this sample of faculty was small, it is evident that e-commerce is influencing curriculums at business schools and will probably become more of an influence as departments compete for students. There are different arguments among departments whether it should be a part of CIS major or an independent major. However, a student majoring in e-commerce may actually limit his career options. Recent mass layoffs in dot.com companies means that a student should choose a more general major (such as CIS or marketing) but have some exposure in the e-commerce area. The survey indicated that most faculty members think the following topics should be taught in an e-commerce curriculum: Internet marketing, Internet technology, Internet business models, ethical & social impact of e-commerce, and Internet security. Traditional CIS courses, such as database management, as well as systems analysis and design, did not rank very high.

The primary limitation in this study was that the response rate was too low. For future research, a study should be conducted on a larger (more than 1000) sample of faculty who teach e-commerce courses at other universities. A comparative analysis can be made with the results of this study.

A second limitation of this study was that the time frame of the data collected in this survey didn't cover a long time span. However, the authors didn't consider this a major constraint since faculty teaching an e-commerce course is a relatively new phenomenon. As time passes, however, a longitudinal study should be conducted to compare e-commerce courses and other pedagogical issues should be examined.

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