E-Business Education at AACSB-Affiliated Business Schools: A Survey of Programs and Curricula

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ABSTRACT. Business schools throughout the United States and abroad have responded to the explosion in electronic business (e-business) by offering programs in e-business. In this study, we examined 77 e-business programs at AACSB-affiliated business colleges and found four basic types: the master of science (MS), bachelor of science (BS), and nondegree certificate (NDC) in e-business, and the master in business administration (MBA) with a specialization or concentration in e-business. MBA programs were the most numerous. The most commonly offered e-business courses were E-Business Marketing in the MBA, MS, and NDC programs, and Introduction to E-Business in the BS programs. In this article, we provide further information on the e-business programs examined.

The Internet and the World Wide Web have revolutionized the way that business is conducted. Electronic business (e-business) has caused a rapid change in the nature of trade for both individuals and businesses. According to International Data Corporation (2000a), U.S. companies alone spent over $80 billion on e-business during the 1999 calendar year. The "business to business" (B2B) segment of e-business currently accounts for 78% of all e-business, and business-to-consumer (B2C) e-business comprises approximately 22% of e-business activity in the United States. The levels of both B2B and B2C e-business are expected to rise dramatically in the coming years, with B2B transactions reaching $2.2 trillion by 2004, a figure that would account for 88% of all e-business (International Data Corporation, 2000b). The effects of e-business technologies have been profound, causing a reassessment of the nature of markets, products, payments, and financial transactions. Other areas as diverse as tax policy and copyright law also have been affected.

Business schools thus have been faced with the challenge of preparing students to participate successfully in an economic environment radically different from that of a few years ago. How-

ever, the best academic approach to meeting this challenge remains open to debate. Some business schools, although they consider preparation in e-business issues essential for students, remain skeptical as to whether a separate program or degree for e-business is justified. Those business schools believe that the basics of traditional business school curricula, such as theoretical frameworks and strategic planning, still should be the focus of their programs because this is the fundamental knowledge necessary to operate a business,

whether traditional or dot-com, successfully. To them, e-business is really just a part of business. Consequently, instead of offering separate e-business programs, those schools plan to integrate e-business concepts and practices into their curricula.

Other colleges and universities, however, hold that the best way to address the issue of e-business is through the creation of new courses and programs of study. They believe that the skills and knowledge necessary to thrive in the new economy go beyond the traditional business curriculum and that students now need to be proficient in information technology and e-business in addition to the traditional business disciplines. Consequently, many of these schools now offer separate e-business programs.

A difficulty for some of these schools has been determining which aspects of e-business should be covered in their e-business programs. Should an e-business program focus on technological aspects, such as Web-site design, electronic data interchange, and authentication technologies, or should it concentrate on the more traditional business topics, such as entrepreneurship and the basics of running a business on the Web, including tracking finances and inventory? What

level of exposure to system design and programming is appropriate?

In this article, we seek to provide some insight into the current state of e-business education in AACSB-affiliated colleges of business by examining course offerings and requirements of existing e-business programs. Such a profile of existing programs will be of value to university administrators interested in developing e-business courses and/or degree programs at their own institutions, as well as to those unsure about the best way to respond to the sudden emergence of e-business as a mainstream business technique. The results of a descriptive survey of existing programs will also provide a useful benchmarking tool for students seeking a degree in e-business.

Data and Analysis

The data for our study were obtained from Web sites of AACSB-affiliated schools listed as having e-business degree programs on the AACSB e-business Web site (www.aacsb.edu/e-commerce). We collected data over a 2-week period ending September 1, 2000. Using data from the AACSB Web site, we identified 83 e-business programs; however, complete program information was obtainable for only 77 of these. Interested individuals may contact us to obtain the names of the 77 e-business programs included in our study.

We first classified each degree program as being in one of four categories: master's of business administration (MBA), master of science (MS), bachelor of science (BS), and nondegree certificate (NDC). After categorizing a degree program, we identified the total number of required credit hours and number of e-business course credit hours needed to complete the program and categorized the required courses by subject area. In Tables 1 through 4, we provide details of the e-business programs in the sample by degree type.

About 40% of the e-business programs identified were MBA (MBA, n = 31) and almost 30% were MS (MS, n = 23) programs. Nondegree certificate programs constituted approximately 23% of the sample (NDC, n = 18), and

BS programs (BS, n = 5) comprised the remaining 6.5%.

Master of Business Administration (MBA) Programs

Seventeen of the MBA programs disclosed their total required credit hours. As the data in Table 1 indicate, the average number of total required credit hours was 52, the minimum was 30, and the maximum 66. Of the 31 MBA programs in our study, the average number of required e-business credit hours was 12, with a minimum of 3 and a maximum of 36. (Although the data in Table 1 report that the minimum of required e-business credit hours was 0, that program had a 3-credit-hour e-business elective requirement.)

The most frequently required e-business course for MBA programs was the E-Business Marketing course (n = 14), with an average of 5 credit hours required. The next most frequently required courses were E-Business Strategy (n = 9) and Introduction to E-Business (n = 9), with an average of 2.8 and

3.1 credits hours required, respectively. Those courses were followed in frequency by Introduction to Applications, Networks and Communication, and System Design. Two MBA programs had a miscellaneous e-business course with an average 3-credit hour requirement, whereas 13 MBA programs had e-business electives with an average credit-hour requirement of 8.8 (min = 3, max = 24). Other required e-business courses are listed in Table 1.

Master of Science (MS) Programs

Ten e-business MS programs reported the required total hours on their Web sites. As shown in Table 2, total required hours for these programs ranged from 30 to 66 with an average of 36. All 23 of the MS programs reported an e-business requirement—the e-business hours required ranged from 3 to 36, with an average of 16. (The data in Table 2 indicate that the minimum of required e-business credit hours was 0; however, that degree program required 3 hours of e-business electives.)

TABLE 1. Credit Hours and Course Requirements for MBA E-Business Programs

Courses	N	M	Min.	Max.
E-Law	3	2.5	1.5	3
E-Strategy	9	2.8	1.5	3
Introduction to E-Business Management	3	3.0	3	3
E-Business Supply Chain Management	0	0.0	0	0
Other E-Business Management	0	0.0	0	0
E-Finance	0	0.0	0	0
E-Accounting	0	0.0	0	0
E-Business Marketing	14	5.0	3	12
E-Economics	1	3.0	3	3
Introduction toAapplications	7	3.0	3	3
Networks and Communication	7	2.8	1.5	3
System Design	6	4.3	3	8
Programming	2	3.0	3	3
E-Payment	0	0.0	0	0
Web Publishing	0	0.0	0	0
Web Design or Project	1	3.0	3	3
Data Management	2	4.5	3	6
Introduction to E-Business	9	3.1	3	4
E-Business Capstone	3	4.0	3	6
E-Business Internship	1	3.0	3	3
Miscellaneous e-business	2	3.0	3	3
E-electives	13	8.8	3	24
Total credit hours	17	52.3	30	66
E-business credit hours	31	12.0	0[a]	36

[a]Although one program required no specific e-business course, it did have a 3-hour e-business elective requirement.

The most frequently required e-business course was E-Marketing ($n = 10$, average credit hours = 4.3), followed closely by Introduction to Applications ($n = 9$, average credit hours = 2.9), Introduction to E-Business ($n = 9$, average credit hours = 4.1), and an E-Business Capstone course ($n = 9$, average credit hours = 3.3). Two e-business MS programs had a required miscellaneous e-business course (average credit hours = 3), and 12 e-business MS programs required e-business elective courses (average credit hours = 7.3. (See Table 2 for more information.)

Bachelor of Science (BS) Programs

Two e-business BS programs listed the total hour requirements on their Web site. The average total hour requirement is 122, with a minimum of 120 and a maximum of 124. The five e-business BS programs included in our survey required, on average, 19.2 credit hours of e-business courses (min = 12, max = 24). The most frequent course requirement was Introduction to E-Business ($n = 5$, average credit hours = 3.6), followed by System Design ($n = 4$, average credit hours = 3), E-Business Strategy ($n = 3$, average credit hours = 3), and Data Management ($n = 3$, average credit hours = 3). Other commonly required e-business BS courses are provided in Table 3. One of the BS programs also required e-business electives (credit hours = 6).

Nondegree Certificate (NDC) Programs

Nine e-business NDC programs reported total required hours on their Web sites. Total required hours ranged from 12 to 24, with an average of 18. All 18 NDC Web sites reported required e-business hours, which ranged from 1.5 to 24, with an average of 12. (The data in Table 4 shows that the minimum of required e-business credit hours was 0; however, that program required 1.5 hours of e-business electives.)

E-Marketing was the most frequently required e-business course ($n = 7$, average credit hours = 2.6), followed by Networks and Communication ($n = 6$,

TABLE 2. Credit Hours and Course Requirements for MS E-Business Programs

Courses	N	M	Min.	Max.
E-Law	5	2.8	2	3
E-Business Strategy	6	3.5	3	3
Introduction to Managing an E-Business	5	3.0	2	3
E-Business Supply Chain Management	1	3.0	3	3
Other E-Business Management	2	3.0	3	3
E-Finance	2	3.0	3	3
E-Accounting	2	3.0	3	3
E-Marketing	10	4.3	2	12
E-Cconomics	0	0.0	0	0
Introduction to Applications	9	2.9	2	3
Networks and Communication	7	3.9	3	6
System Design	7	4.0	3	8
Programming	4	3.8	2	3
E-Payment	3	2.7	2	3
Web Publishing	0	0.0	0	0
Web Design or Project	3	2.7	2	3
Data Management	6	3.2	3	6
Introduction to E-Business	9	4.1	3	6
E-Business Capstone	9	3.3	3	6
E-Business Internship	0	0.0	0	0
Miscellaneous e-business	2	3.0	3	3
E-electives	12	7.3	3	24
Total credit hours	10	36.4	30	66
E-business credit hours	23	15.7	0[a]	36

[a]Although one program required no specific e-business course, it did have a 3-hour e-business elective requirement.

TABLE 3. Credit Hours and Course Requirements for BS E-Business Programs

Courses	N	M	Min.	Max.
E-Law	1	3.0	3	3
E-Strategy	3	3.0	3	3
Introduction to E-Business Management	1	3.0	3	3
E-business Supply Chain Management	0	0.0	0	0
Other E-Business Management	0	0.0	0	0
E-Finance	0	0.0	0	0
E-Accounting	1	3.0	3	3
E-Marketing	2	4.5	3	6
E-Economics	0	0.0	0	0
Introduction to Applications	1	3.0	3	3
Networks and Communication	2	3.0	3	3
System Design	4	3.0	3	3
Programming	1	3.0	3	3
E-Payment	0	0.0	0	0
Web Publishing	1	3.0	3	3
Web Design or Project	2	3.0	3	3
Data Management	3	3.0	3	3
Introduction to E-Business	5	3.6	3	3
E-Business Capstone	1	6.0	6	6
E-Business Internship	1	3.0	3	3
Miscellaneous e-business	0	0.0	0	0
E-electives	1	6.0	6	6
Total credit hours	2	122.0	120	124
E-business credit hours	5	19.2	12	24

TABLE 4. Credit Hours and Course Requirements for Nondegree Certificates in E-Business

Courses	N	M	Min.	Max.
E-Law	2	1.9	0.7	3
E-Strategy	3	2.8	2.4	3
Introduction to E-Business Management	2	1.8	0.6	3
E-Business Supply Chain Management	1	2.0	2	2
Other E-Business Management	2	1.8	0.6	3
E-Finance	0	0.0	0	0
E-Accounting	0	0.0	0	0
E-Marketing	7	2.6	1.5	3
E-Economics	1	2.0	2	2
Introduction to Applications	4	2.8	2	3
Networks and Communication	6	3.3	2	6
System Design	1	3.0	3	3
Programming	1	6.0	6	6
E-Payment	0	0.0	0	0
Web Publishing	1	3.0	3	3
Web Design or Project	4	2.3	1.2	3
Data Management	2	2.5	2	3
Introduction to E-Business	6	2.6	1.4	3
E-Business Capstone	1	3.0	3	3
E-Business Internship	0	0.0	0	0
Miscellaneous e-business	1	3.0	3	3
E-electives	7	8.7	1.5	21
Total credit hours	9	17.8	12	24
E-business credit hours	18	11.7	0[a]	24

[a]Although one program required no specific e-business course, it did have a 1.5-hour e-business elective requirement.

average credit hours = 3.3), Introduction to E-Business (*n* = 6, average credit hours = 2.6), Introduction to Applications (*n* = 4, average credit hours = 2.8), and a Web Design or E-Business Project course (*n* = 4, average credit hours = 2.3). Other required courses in e-business NDC programs are provided in Table 4. Seven NDC programs also require e-business electives (average credit hours = 8.7).

Summary and Implications

In this article, we provided a descriptive summary of e-business programs currently operating in AACSB-affiliated colleges of business. Our findings indicate that no consensus exists regarding the number and nature of courses that should comprise an e-business curriculum. Such a result may be due to the fact

that e-business has emerged as a business phenomenon only in the recent past.

The MBA programs described in this study offer a striking example of this lack of agreement. Students in an e-business MBA program may encounter as few as one (3 hours) designated e-business course, or as many as 12 (36 hours). Some programs emphasize traditional business topics in an e-business setting, with course offerings dominated by e-business marketing, strategy, and so forth. Other programs are adopting a more technical approach, requiring students to attain competence in programming, networks and communications, and system design. As noted, the variety of approaches was mirrored in the other programs surveyed.

Despite the lack of general agreement as to what constitutes an e-business cur-

riculum, the results reported here are of value to university administrators planning the implementation of their own programs. The descriptions provided may provide support for some existing ideas or perhaps suggest some approaches not previously considered. In designing a program in an area as new as e-business, an increased knowledge of the range of existing offerings can only be beneficial.

An issue that we did not address in our study is the e-business skills possessed by college-of-business faculty. Although e-business has revolutionized the way that modern business is conducted, it is unlikely that all business faculty have the knowledge or skills necessary to incorporate e-business topics into their courses or to offer separate e-business courses. Therefore, business schools wishing to offer e-business programs may find that joint degree programs involving nonbusiness faculty are a possible solution. For example, Carnegie Mellon's e-business program is a joint venture between business and computer science faculty members. Other business schools have involved electrical engineering faculty as well. Until e-business expertise is widespread among business faculty, this is likely to be a common situation.

The results of a descriptive study such as this one should be interpreted with caution, particularly when the subject of the study is changing rapidly. Although current at the time of the survey, the list of e-business programs seems likely to grow. Also, as e-business evolves, the structure and content of curricula devoted to the subject will almost certainly evolve as well.

REFERENCES

International Data Corporation. (2000a, September 12). No other country can keep pace with U.S. ecommerce spending, IDC says. *PR Newswire.*

International Data Corporation. (2000b, June). *Putting markets into place: An e-marketplace definition and forecast.* IDC #22501.