



Chapter 19

**E-Commerce Curriculum
Development and Implementation**

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The very nature of e-commerce requires a rapid, flexible approach to curriculum development. This chapter describes a successful model for the design and development of an e-commerce curriculum, and chronicles the experiences of DePaul University's School of Computer Science, Telecommunications, and Information Systems in developing an e-commerce master's degree. Eight key principles for universities seeking to embark on a new e-commerce curriculum are identified. The chapter updates earlier work presented at the 2000 Information Resources Management Association Conference (Knight & Chan).

BACKGROUND

In an Internet age, a university must respond quickly to external changes. It is no longer appropriate, at least not in the e-commerce arena, to agonize at length over curriculum changes. The very nature of e-business demands flexible and rapid curriculum development to keep pace with rapid changes, not just in technologies, but in business models and the external competitive environment as well. This chapter chronicles the experiences of DePaul University's School of Computer Science, Telecommunications, and Information Systems in meeting that challenge.

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The DePaul experience indicates that it is possible for a university, even a large one with over twenty-one thousand students, to move quickly and effectively in curriculum development. The entire e-commerce master's curriculum was developed and approved, students admitted and the program launched within just seven months. In February of 1999, two DePaul faculty members first considered the idea of developing an e-commerce related master's degree. By March 1999, a design team was formed, the underlying curriculum design principles were determined, the background research was conducted, and the courses were defined. Shortly thereafter, in April 1999, the appropriate committees within the school met and approved the plan. In May 1999, the school's faculty approved the degree. In June 1999, the entire university faculty and the university president approved the program. In September 1999, the first fifty students enrolled in the program. Enrollment grew steadily to reach about 400 majors within the program's second year.

DePaul University in Chicago was not the only university to pioneer e-commerce programs. For example, Claremont Graduate University in California, Carnegie Mellon University in Pittsburgh, Creighton University in Omaha, Marlboro College in Vermont, and National University in San Diego all were among the first to offer such master's degrees (Memishi, 1999). In addition to degree programs, many schools offer certificates or concentrations in the area. Some institutions, including Stanford University and Harvard University, have opted not to separate e-commerce from their traditional programs, but instead to include e-commerce coverage in their existing curricula (Memishi, 1999). Among universities offering degrees in e-commerce, the vast majority of programs are offered through business schools, rather than through schools of computer science, information science, engineering, or technology (Knight, 2001).

The growing number of e-commerce degrees is based solidly in the growth of e-commerce itself. According to Forrester Research Inc. (2001), global Internet business will reach nearly \$6.8 trillion in 2004, up from \$657 billion in 2000. The rapid growth of e-commerce has resulted in an increased demand for e-commerce IT professionals. In Computerworld's Annual Technology Skills Survey, 30% of the 307 participating IT managers indicated that they would hire or retrain staff for Internet applications development in the year 2001, with 28% saying that they would hire or retrain for e-commerce application development (Goff, 2000). According to the same study, Web-based applications, including supplier-facing, customer-facing, industry exchange, and marketplace systems are among the top IT agenda items for 2001. Despite the decline of the dot-coms, high demand IT jobs continue to include Internet and intranet developers (Radcliff, *IT Jobs*, 2001), while high demand skills continue to include those central to much Web informa-

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