



Ebusiness Education: The Second Wave

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ABSTRACT

Is eBusiness different from other disciplines in its requirements towards flexible learning environments? What factors would contribute to the success of a flexible eBusiness programme, and what approaches have been undertaken by educational practitioners and institutions? The paper draws conclusions based on data gathered from the World Wide Web, with a focus on distance, online, flexible and hybrid models of delivery of eBusiness courses.

Keywords: flexible learning, eBusiness education, hybrid delivery

1. INTRODUCTION

eBusiness has become a substantial component of the global economy. However, the field is rapidly changing and this impacts tremendously on educational institutions: they strive to meet the growing demands for specialized courses and programmes in eBusinesses and eCommerce. Many colleges and universities throughout the world now offer certificates, diplomas and graduate and post-graduate programmes in eCommerce. There is a great potential for further growth,

and universities and polytechnics are increasing the number of eBusiness degrees or eBusiness majors. Disciplines such as computer science are looking at ways to incorporate a first course in eBusiness in their own curricula (Ge and Sun, 2000). At the same time, eBusiness course content and comprehensiveness themselves rapidly expand.

As the cradle of eCommerce, the World Wide Web seems to be a natural teaching and learning environment for eBusiness. What factors would contribute to the success of an online eBusiness course? What specific online approaches have been undertaken? Based on prior research, this paper proposes and validates a framework of critical success factors (CSFs). It concludes that eBusiness education offers a good opportunity to explore a variety of non-face-to-face models involving both purpose built learning environments and the Web, and that hybrid delivery is the emerging trend in eBusiness education.

2. BACKGROUND AND DEFINITIONS

The research literature on delivery models distinguishes between distance learning, flexible, open and online learning, and hybrid (or mixed, blended) teaching and learning (Figure 1). We briefly define the terms, as summarised in (Petrova, 2001).



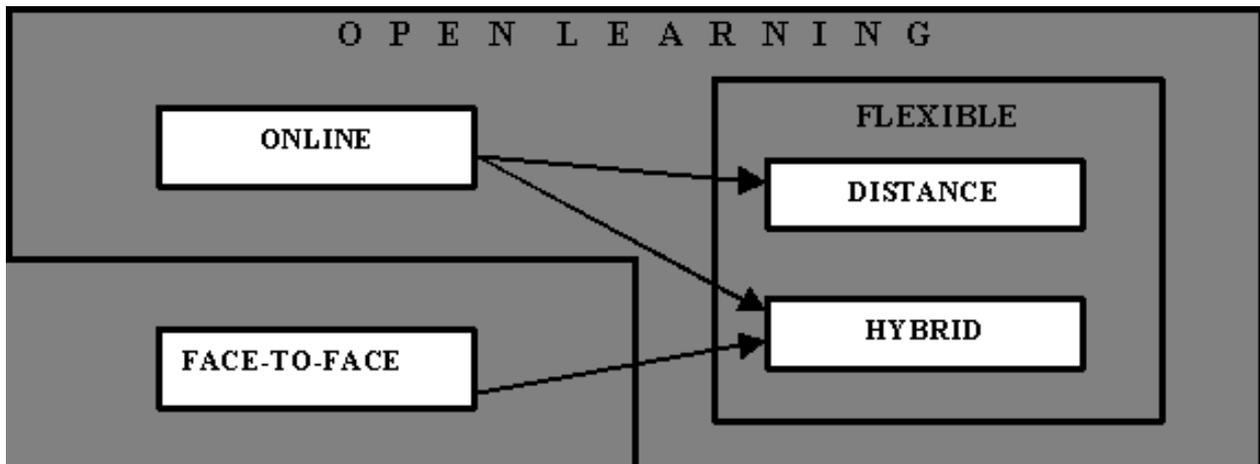


Figure 1. Content Delivery Models

2.1 DISTANCE AND FLEXIBLE LEARNING

The term distance education has been used to represent a variety of educational models. It involves the separation of the learner from the instructor in time and in space and the employment of a wide range of communication technologies.

The level of flexibility reached by distance delivery can vary significantly. Students can select their own studying parameters - time ('when'), place ('where') and to a certain degree - their own pace ('how'). Flexible learning takes advantage of the changes in the management of the workplace, which allow students to combine work with studying.

2.2 OPEN LEARNING

Open learning is the contextual model within which flexible and distant learning occur. It can be flexible in the way participants are selected, assessed, and supported throughout a course. A learning package designed for open education might add a 'who' dimension to the three dimensions mentioned above - for example, a course might have no prerequisites. The open learner studies through the use of specially prepared study guides which utilise various information and communication media - among them the Internet.

2.3 ONLINE LEARNING

Online learning is a term most often used to indicate that the Internet (or a corporate intranet) and the World Wide Web are used as a technological infrastructure for course delivery. Information and communication technologies (ICT) provide the foundation upon which different online learning models are developed; adequate institutional policies and learning practices are also required.

2.4 HYBRID LEARNING

The hybrid model of learning integrates face-to-face teaching into a distant learning course. Technology does not detach the course from the educational institution, and direct social contacts play a significant role in collaborative and cooperative student work.

Are courses and programmes in eBusiness and eCommerce well suited for online delivery? We examined the Web to identify a number of online eBusiness courses and to test a pre-designed set of critical success factors, presented in the next section.

3. RESEARCH QUESTIONS AND FRAMEWORK

As a starting point for our research we formulated three research questions:

1. Is there a significant number of eBusiness courses and programmes offered in either online or flexible mode by universities which use English as the

language of instruction?

2. How can we classify and study these course?
3. What is the prevalent mode of delivery of eCommerce online courses - distance or hybrid?

We developed a structured data capture tool, based on several literature sources: the framework for analysis of online syllabi and Web sites in Rankin (2000), the classification of eCommerce courses in (King *et al.* 2001), and the next generation eBusiness architecture in (Malhotra, 2001). Our tool includes groups of questions on: Identification (University, URL, Programme, Course), Content and Learning Objectives, Delivery (Mode, Platform, Degree of Flexibility, Communication Types, Prerequisites), and Additional Information (Year Started, Reference Texts, Enrolment, Target Community).

To analyse the data, we designed a critical success factors framework (Figure 2), adapting and expanding the framework for virtual education suggested in (Ma *et al.* 2000). We discuss the results obtained in the next section.

3. DISCUSSION

Using www.worldwidlearn.com, during the period 15 March-30 April 2002 we identified suitable Web sites and pre-selected 17 specific universities (two in Canada, two in Australia, and 13 in the USA). The size of the selection is similar to the ones found in Jacobs (2000) and King *et al.* (2001).

Following Jacobs (2000), we classified and grouped the occurrences into two main categories: Graduate and Undergraduate programmes. We applied the questionnaire to each of the universities and summarized the results.

3.1 UNDERGRADUATE DEGREES

Most institutions offer eCommerce as a Major within a degree, with students required to complete other courses like Marketing, Security etc. Typical prerequisites include a secondary level qualification. The majority of the institutions use the WWW as a primary medium for delivery. The learning platforms include eLearning packages such as WebCT; courses are often offered in hybrid delivery mode. The assessment framework is quite uniform; students are required to complete a research project and to build a simple eCommerce site.

3.2 GRADUATE DEGREES

We found that the graduate programmes could be classified further into the two main categories suggested by Jacobs (2000):

- ◆ MS (Master of Science) in eCommerce, or Master of eCommerce
- ◆ MBA (Master of Business Administration) with a specialization in eCommerce.

The Master's programmes focus on providing technical skills needed to evaluate, design and implement a complete eCommerce system. Most of the courses are flexible, which allows students to specialize in a particular technology (such as networking, or Web technology).

The MBA programmes focus on eCommerce technologies and the associated managerial techniques required to support an organization's mission across various industries. Students are provided with the operational skills needed to design, develop and manage a business operating in the

Critical success factor	Description
Operating sponsor	Manages the implementation
Staff	Delivers the course
Technology	The course platform and mode of delivery
Content management	Course structure and content
Flexibility management	Supports learners
Assessment management	Provides feedback to students, manages learning outcomes
Student satisfaction	Provides feedback to staff and operating sponsor

Figure 2. CSF Framework

eBusiness environment, complemented by analytical skills needed to resolve business problems in eCommerce/eBusiness context.

To answer the second research question and to validate the CSF framework for undergraduate courses, we considered one undergraduate case, described in the literature.

3.3 THE CASE OF THE RYERSON UNIVERSITY

The Ryerson Polytechnic University launched an online eBusiness course in September 1999. A paper by Grant *et al.* (2001) discusses in detail the development process and allows us to map the CSF framework onto the case.

The operating sponsors for the development phase involved a professor, two research assistants, a Web technician and a junior faculty member. The course was designed by a senior faculty member, and delivery was supported by two teaching assistants and a lab instructor in the actual delivery of the course. WebCT was the main tool, providing communication via bulletin boards and email, and management of assessment results. The operating team was supported by the university's distance education section - throughout the whole process of design, development, implementation and delivery.

The course content included various topics related to eBusiness concepts: eBusiness models, impact of eCommerce on business functions such as manufacturing, sales and marketing, and issues in eCommerce (security, payment, privacy and copyright). Although all presentations and readings were made available to students through WebCT, the concepts were reinforced by weekly face-to-face sessions and laboratory classes (online demonstrations of eCommerce/eBusiness Websites). Students had the flexibility to choose from a variety of delivery options: weekly sessions, evening classes or complete distance education.

The assessment requirements for this course included building a simple but complete eCommerce storefront and a research project to examine the "web presence" of a major Canadian corporation. All assignments could be submitted through the Internet and the marks were made available to students online. Both staff and students found the online submission and marking as one of the most effective components of the course.

Overall students found that the Internet based flexible delivery of the course was reliable and met their expectations. Students reported some technical problems with the delivery platform.

The results above show that all critical success factors in the framework were traced in the case description, and were used to evaluate the course. The limited scope of this paper does not allow us to include evidence from other literature sources such as Sendall (2001), Fedorowicz and Gogan (2001), Swatman and Chan (2001b) which support the feasibility of mapping and allow us to conclude that the CSF framework provides an answer to the second research question.

To answer the last research question, that of the prevalent mode, we studied the selection of undergraduate programmes. Although the use of the Internet and various software platforms prevail in online eBusiness programmes, a significant number of courses are supplemented by weekly lectures and lab sessions - reinforcing the topics introduced in online lectures and readings. Out of the seventeen programmes selected, 50 percent utilise hybrid formats (some include 'real' face-to-face teaching, others offer 'get to know each other' sessions - there is a great variety). There are no conclusive literature results. Our observations lead us to believe that there is a noticeable trend towards the adoption of a hybrid mode, and we found some indirect confirmation in Swatman and Chan, (2001a). In addition, the Web sites we surveyed demonstrate that the traditional distance educational model shows a trend to converge towards a hybrid model - also noted by Lang and Zao (2000), (Swatman and Chan, 2001a).

4. CONCLUSION

There is a significant number of courses and programmes in eCommerce and eBusiness offered online - utilising a distance model as well as a growing variety of hybrid models. The proposed CSF framework can be used to evaluate online eCommerce and eBusiness courses. Future research could include the development of key performance indicators and appropriate measures for each factor, and an implementation of the CSF framework.

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