E-BUSINESS PRGRAM OVERVIEW IN THE UNITED STATES

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ABSTRACT

American e-business programs are examined in this study. The course syllabi, curriculum, and program information are collected primarily from the university public websites. All available course description and syllabi are compared and similar courses are identified and labeled. Then the author studies the program requirements with labelled/categorized courses information. A summary of findings and recommendation for future e-business program design are provided in the end.

Keywords: E-Business programs, United States.

OVERVIEW

E commerce is the process of conducting business or share information through electronic networks. This includes purchasing and selling products, information or professional services all of which are accomplished through fax, email, and the use of various other electronic infrastructure. Some businesses operate solely in the electronic realm while other businesses operate traditional offices and stores while also managing a virtual office or store on the internet. E-commerce provides opportunities to reach populations globally which would have been difficult, if not impossible. Now, through the advancement of electronic technology, it only takes a click of a mouse and a few minutes time to visit business locations thousands of miles apart. The convenience and affordability of the e commerce process for customers, clients and businesses has revolutionized the business world.

Due to the prevalence of e-commerce in the current business world, individuals educated in the field are in great demand. The business world has become increasingly more complex and competitive since the emergence of e-commerce. E-commerce / e-business degree programs provide essential knowledge in all of the foundational areas of business, which usually includes finance, marketing, accounting, operations and supply chain management, and human resources. In addition, e-business students are trained in technology applications, network and database, and issues that are unique on the Internet, i.e., e-marketing, e-SCM, and e-CRM.

Degrees in e-commerce are awarded at the undergraduate and graduate levels and may be offered through business, computer science, or engineering schools. Some e-commerce programs are interdisciplinary in nature and include classes from many academic departments.

The information is primarily collected from the Internet during summer 2014. In additional to the school websites, the academic publications, AACSB website, and trade associations are also

sources of information. All available course description and syllabi are compared and similar courses are identified and labeled. Then the author studies the program requirements with labelled/categorized courses information.

The details about each program under study and reference are available upon request. A list of programs that we have examined upon is provided as the followings:

Texas Christian University - BBA Major in Electronic Business
Indiana University Bloomington - Undergraduate Technology Management Co-Major
Carnegie Mellon University - MBA Business Technology Track
Carnegie Mellon University - MSIT in eBusiness Technology
University of Pennsylvania - MBA Secondary Concentration in Managing Electronic Commerce

We have found out that designing an ebusiness program is very challenging and only a few top universities have programs in this area. In the following section, we will discuss the ideal model and difficulty in design ebusiness programs.

CONCLUSIONS AND DISCUSSION

From our study, the main findings are as followings:

a. Most ebusiness or majors in related areas are at the master level at American higher education institutes.

Texas Christian University is a rare case that has an undergraduate ebusiness program. The program requires 8 major courses (24 hours), including Business on the Web, eBusiness Programming and Applications, eBusiness Planning, Data for eBusiness, eBusiness Development, eEnterprise Architecture, Internship, and eBusiness Consultancy. Notice that both Internship and Consultancy courses are problem solving oriented and written reports required. Indiana University Kelley School of Business provides Technology Management as a secondary major to BBA students. The co-major requires only 3 major courses (MIS, Database, and Process Management) and 1 elective in programming / application development, or Supply Chain and Operations Management, or Data Mining, or Business Analytics, or Information Security.

b. The ownership of the program determines the favor of the program.

    I. Programs offered by a Computer Science school / department focus on information Technology and application development.

    MSIT in eBusiness Technology from Carnegie Mellon University School of Computer Science is a good example of an ebusiness program with an engineering school flavor. The program is innovative and unique. The students spend a year completing 16 consulting projects and a final practicum. The program provides insight into the current trends and areas in ebusiness technology, which is summarized later in this report.

II. Programs offered by a business school focus more on the strategic and managerial issues in electronic businesses.

Examples include Managing E-Commerce MBA concentration at Wharton Business School (University of Pennsylvania) and Business Technology Track at Tepper School of Business (Carnegie Mellon University). Typical courses are Business Technology, Technology Strategy, E-marketing, and Process / Systems Analysis and Design.

c. Innovative hands-on problem solving approach

An excellent example is the CMU's MSIT in eBusiness Technology program. The program is designed under the idea that technology gets obsolete constantly and education should enable students to update themselves. The school does not offer any traditional courses. Students are assigned 16 tasks and learn on their own to tackle the problems and write up the solution. Then in the final practicum, six students work with two faculty members to solve a real problem provided by an outside sponsor. The practicum presentation is judged by an external ebusiness expert panel.

d. Most programs have Supply Chain / System / Process Analysis and Design or a Decision Science course as an elective. The software used in these courses include SAP, Microsoft Excel, and Microsoft Access.

For example, Decision Analysis and Decision Support Systems is an elective for the Business Technology track at Tepper School of Business (CMU). Indiana University has Business Process Management and Operations Process as electives for its Technology Management co-major. The process analysis and management is at the center of ebusiness and could be a critical part of any ebusiness program.

Now we present here a course breakdown for e-business curriculum. Nowadays, most businesses have e-commerce as at least part of their practice, and some firms operate solely online. E-business related programs usually cover all traditional topic areas in business administration with a focus on use of the Information and Communication Technology (ICT).

The diagram below presents the structure of a complete ebusiness program curriculum. However, it is infeasible for any institution to cover the whole list of courses. Most of current programs use a focus strategy to form their own specialty and concentrate on one aspect of the whole knowledge body.

First we will present the whole complete curriculum and then use the diagram to explain the difference among example programs. The courses can be assigned into the following categories
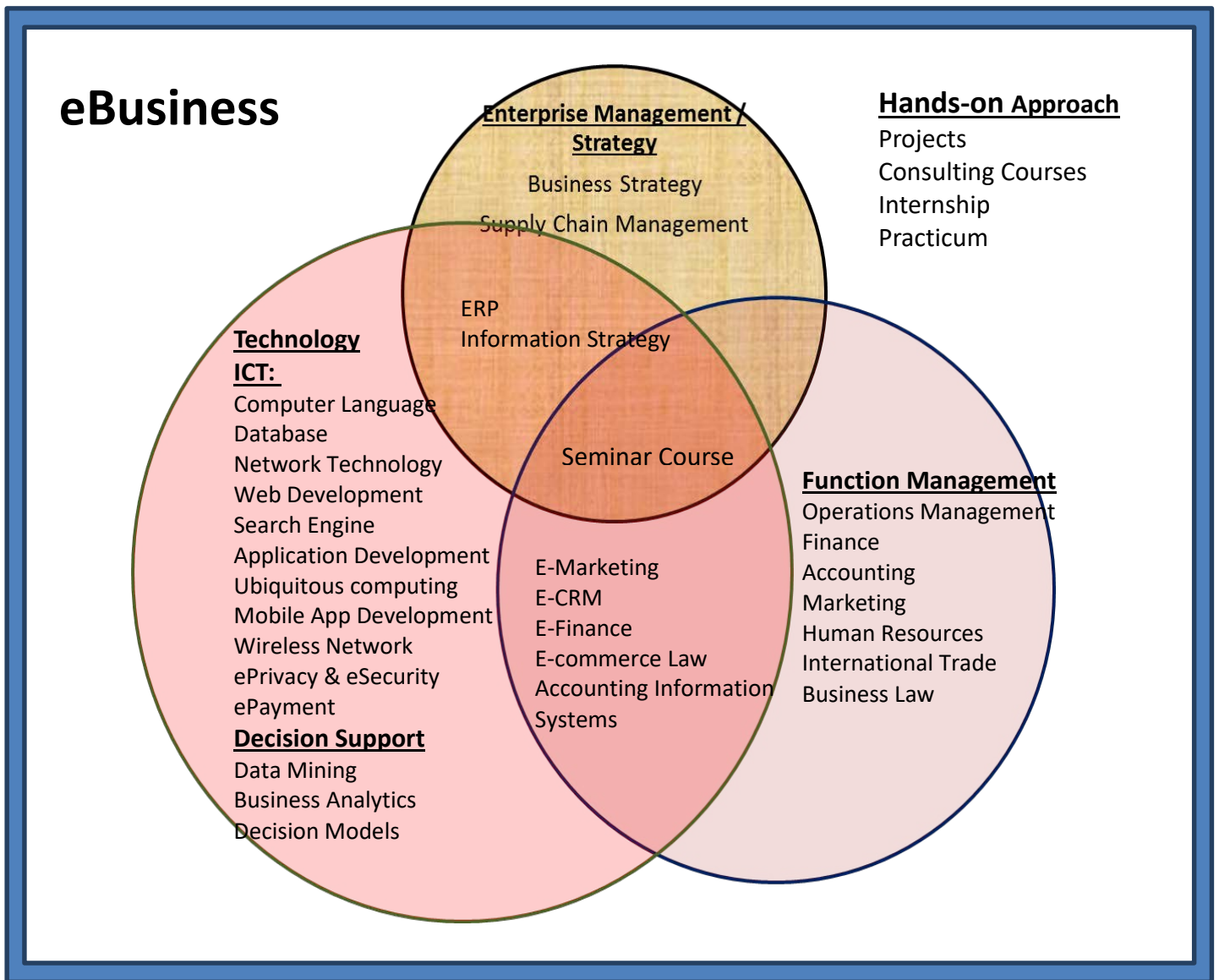
(please also refer to the diagram):

- Hands-on problem solving courses

  Most top programs have one or two or even more hands-on, learning by doing courses toward the end of the programs. Examples include Texas Christian University and CMU.
  These courses require students to have some knowledge of business management and technologies.
    - Projects
    - Consulting Courses
    - Internship
    - Practicum

eBusiness

Enterprise Management / Strategy
Business Strategy
Supply Chain Management

ERP
Information Strategy

Hands-on Approach
Projects
Consulting Courses
Internship
Practicum

Technology ICT:
Computer Language
Database
Network Technology
Web Development
Search Engine
Application Development
Ubiquitous computing
Mobile App Development
Wireless Network
ePrivacy & eSecurity
ePayment
Decision Support
Data Mining
Business Analytics
Decision Models

Seminar Course

E-Marketing
E-CRM
E-Finance
E-commerce Law
Accounting Information Systems

Function Management
Operations Management
Finance
Accounting
Marketing
Human Resources
International Trade
Business Law

- Management of Functional Areas

  For programs that concentrate on technology side, this area is relatively weak (Example: CMU). For ebusiness programs as a concentration of a MBA education, the courses on functional area are relatively complete (Example: Wharton). Courses include Operations Management, Finance, Accounting, Marketing, Human Resources, International Business, and Business Laws.

- Technology Courses

  There are two types of technology courses: Information and Communication Technology (ICT) and Decision Support Technology. Both types are frequently included in the ebusiness and technology related programs.

  ICT
  Courses include Computer Languages, Database, Network Technology, Web Development, Search Engine, Application Development, Ubiquitous computing, Mobile App Development, Wireless Network, ePrivacy & eSecurity, ePayment and other courses.

  Decision Support Technology
  Typical courses are Data Mining, Business Analytics, and Decision Models.

- Enterprise Management / Strategy

  Typically, the courses on enterprise management / strategy only count for a small portion in the ebusiness programs. However, this is regarded as an essential part of any business related programs. Example courses are Business strategy and Supply Chain Management.

- Overlapping of Technology and Functional Management

  Many innovative new courses have emerged under this category. It is quite common for ebusiness related programs to have big percentage of these courses in their curriculum. This is observed for both technology centered (CMU) and technology management centered (Wharton) programs. The example courses are E-Marketing / Social Media, E-CRM, E-Finance, E-commerce Law, Accounting Information systems.

- Overlapping of Technology and Enterprise Management / strategy

  Under this category, information strategy is a very common course, while a few programs have ERP in its curriculum.

- Overlapping of Technology, Functional Management, and Enterprise Management /

  Strategy. This is often delivered by a seminar course to cover the current topics that

  related to all three aspects of knowledge body.

Finally, we have suggestions for designing ebusiness programs based on our findings in our study of current available programs.

    a.   Incorporate hands-on problem solving components

Nowadays, the technology becomes obsolete at ever faster rate. Technology taught in class usually become outdated when students graduate. Many programs now look into ways to have students learn how to keep up. One approach is to expose students to real business situations and guide them searching for solutions by learning technology and business theories involved. Any new ebusiness program may require projects in most required and elective courses. An internship or practicum course may be set up as a capstone requirement. Furthermore, ebusiness programs need to establish the connections with the industry.

    b.   Carefully define the program focus

We have observed that all ebusiness related programs at top schools do not cover the complete curriculum in the diagram. Each program determines its own approach and covers only a portion of the full curriculum. There are three types of ebusiness related programs: technology centered, technology management centered, and specialty (e.g., e-marketing or web development) programs. Future ebusiness program should select a focus that is feasible to implement and valuable to business community.

    c.   Include decision support courses

Based on our findings, most programs have decision support course(s) either as part of the required core or, most of the time, as electives. The decision support courses may include management science, data mining, and business analytics. So far, we have not seen any ebusiness related program that has a concentration on decision support though.

    d.   Embrace the current trend to provide courses overlapping technology and business strategy / functional management.

Overlapping courses are common in all ebusiness programs, regardless the types. Most common overlapping courses are e-marketing and information strategy. Other common ones include ERP, Information Systems for Financial Institution, Accounting Information Systems, and eBusiness Law.

To start an eBusiness program, universities need to invest in faculty and other resources to "create" new inter-discipline / overlapping courses.

All in all, degree in ebusiness is valuable to students and business community. However, it is very difficult to design and deliver a package of value in the program. First of all, as indicated in our diagram, ebusiness is inter-discipline in nature and universities seldom have resources to cover the whole curriculum. Secondly, as so many courses are considered relevant, it is infeasible for students to complete all courses within allowed instructional units. As a consequence, universities have to study the internal resources and external demand and carefully select an area of focus for their ebusiness programs. Finally, technology advances so fast in ebusiness practice, ebusiness programs need to be flexible and focus more on students' ability to adapt to new business environment.
References available upon request from xxu@cpp.edu