

## E-BUSINESS CURRICULUM DEVELOPMENT (PANEL DISCUSSION)

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### ABSTRACT

The emergence of e-Business has been both rapid and pervasive. Few can deny that the technology has dramatically *disrupted* all types of business in recent years. To effectively add value in this new business environment, today's managers must understand the fundamental issues associated with e-Business, whether one is pursuing a career in supply-chain management, customer relationship management, content creation and management, enterprise resources planning, transaction processing systems, or network security, etc. This paper discusses the need for an interdisciplinary e-business program and how the program addresses the need of the marketplace. The paper also describes the experience of California State Polytechnic University, Pomona in designing such a program.

### INTRODUCTION

The spread of ubiquitous computing and the Internet has created tremendous opportunities for new services and new ways of doing almost everything. New business models are emerging in startups, and in existing companies struggling to survive. The speed with which "e" burst upon the business world has not permitted traditional business education to address the important e-Business issues future managers need to be aware of. To effectively add value in this new business environment, today's managers must understand the fundamental issues associated with e-Business, whether one is pursuing a career in supply-chain management, customer relationship management, content creation and management, enterprise resources planning, transaction processing systems, or network security, etc.

The astounding growth in e-Business worldwide is creating many opportunities for qualified and skilled people. In many countries the need for e-Business skills is often greater than the number of qualified individuals available to fill these positions. It may be expected that e-Business positions are likely to be among the best-paid occupations available to people who have appropriate qualifications or experience.

To prepare future business managers to thrive in this tempestuous environment, a new kind of undergraduate business education needs to be provided. A distinct e-Business program reflecting the new organizational structures and modes of interaction of the new network economy can be of great value to graduates joining new and existing companies.

An e-business undergraduate program should produce graduates with an adequate understanding of e-business

theory and practice, and who possess well-developed technical, written, oral and interpersonal communication skills.

### CALIFORNIA STATE POLYTECHNIC UNIVERSITY LAUNCHES UNDERGRADUATE E-BUSINESS PROGRAM

California State Polytechnic University, Pomona (CPP) recently launched a new e-business concentration for a Bachelor of Science degree in Business Administration to address an overwhelming need for employees who are trained and experienced in e-business theory and practice.

E-business has the potential to streamline business systems and save operating costs. It uses Internet-centered technology in business activities, both internally (such as real-time inventory control) and externally (online marketing and sales). Although the need for trained professionals in e-business is high, available training and staff has yet to meet demand.

"You can't turn them out faster than we can hire them," said David Hildebrandt, who runs a business innovation service program at IBM. "It's always the next generation that grows up with the technology that knows its full potential. We're always looking for that talent and training. It makes our job a lot easier at IBM."

In addition to the general business curriculum, students will learn how to make an immediate impact after graduation with knowledge of the theory and practice of e-business. The program will stress CPP's learn-by-doing philosophy as well as sound business practices, said Eduardo Ochoa, dean of the College of Business Administration. "This program is not for flashy start-ups, but for established companies interested in the long-term impact of e-business," said Dean Ochoa. "They could see noticeable savings across the board by restructuring the organization and using the Internet as a strategic tool and resource."

### E-BUSINESS AT CPP

E-Business education at CPP started in a way not unlike most academic institutions here and abroad. We at CPP recognized that e-Business is a disruptive technology about to revolutionize the business world; the way the *Industrial Revolution* changed the world a century ago. At CPP:

- the International Business and Marketing department first responded in 1998-99 by offering new courses on e-Business, and soon enough introduced a new career track on e-Business within the concentration;
- the Computer Information Systems department, Management of Human Resources department, almost simultaneously started offering courses highlighting e-Business as a way of doing business in the future;

- the Technology and Operations Management department, having just introduced a new career track on Management of Technology, was about to introduce a new career track on e-Business and Supply-Chain Management;
- two other departments – Accounting and Finance – were just as eager to develop their version of e-Business.

Indeed, this is the path other academic institutions here and abroad followed in “developing” a new program on e-Business. However, CPP does not want a “me too” e-Business program. Instead, the College of Business envisioned an e-Business program that the university can be proud to proclaim to be “World Class.” We know we have the resources to do, and to do it right.

### A TRULY MULTI-DISCIPLINARY PROGRAM

The “e” in e-business stands for electronic network —the application of electronic network technology to relevant business processes to improve or change those processes. E-business includes all business processes, both external-oriented processes (marketing and purchasing on the web) and internal processes like production, product development, finance, human resources, information and knowledge management, risk management, workforce management, facilities management, etc.

A “World Class” cannot reside in a single department because as such, we would be like one of the blind men struggling to determine what an elephant looks like. The first step we took is a form a cross-discipline taskforce. The taskforce consisted of the Dean, and two highly motivated faculty members from each of the 6 departments in the College of Business.

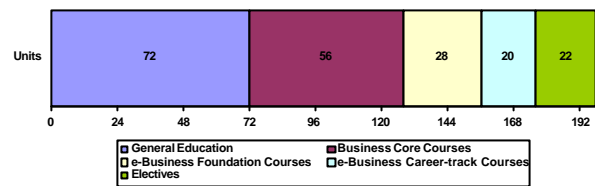
Like most people, members of the taskforce did not have a clear definition of e-Business when we started. It is not uncommon to muddle up the terms e-Commerce and e-Business. E-commerce covers outer-facing processes that touch customers, suppliers and external partners, including sales, marketing, order-taking, delivery, customer service, customer loyalty management, and purchasing of both production inputs and indirect operating expenses. E-business, on the other hand, includes all business processes, both external-oriented processes and internal processes.

The 13-member taskforce and our industry partners worked closely for almost a year. We recognized the need to identify a series of courses to provide a common, baseline foundation in eBusiness. These courses are by their nature should be interdisciplinary, cutting across functional areas. More importantly, the courses should be reflective of the emerging network structures of the new business model.

### ENGINEERED FROM THE GROUND UP

The e-Business program at CPP is a new concentration within the Bachelor of Science in Business Administration. The complete Bachelor of Science degree consists of

several blocks of mostly four-unit quarter courses shown below.



Student in the e-Business concentration must take 28 units of foundation courses. These courses are by their nature interdisciplinary, cutting across functional areas and more reflective of the emerging network structures of the new business model. These courses were developed by the 13-member taskforce to provide a common, baseline foundation in e-Business:

#### EBZ 301: Introduction to Electronic Business.

Technology underpinnings for eBusiness, impact on other information systems within a business, impact on business design and strategy including how business strategy shapes and is now being shaped by threats and opportunities in eBusiness, impact on the industries and markets, direct marketing theory, business models for eBusiness.

EBZ 302: e-Business Technology. Intensive survey of technologies used to support all aspects of electronic business. Develop a familiarity with the concepts, vocabulary and tools of electronic business technology. Hands-on projects covering these topics.

#### EBZ 303: e-Business Customer Relationship Management.

Critical role of Life Time Value (LTV). Integration of management, sales, marketing, finance, operations, IT and ERP to create a true customer-centric focus. Business-to-Business (B2B) and Business-to-Consumer (B2C) markets. Development of 360-degree strategies to achieve a competitive advantage through quality customer relationships and long-term profitability. Benchmarking and financial metrics.

#### EBZ 304: e-Business-enabled Supply Chain Management.

Integration of internal company resources to work effectively with the external supply chain; e-business concepts and Web technologies to manage the supply chain; enhancement of company’s overall performance through improved manufacturing capability, market responsiveness, and customer-supplier relationships.

#### EBZ 305: e-Business Enterprise Resource Planning.

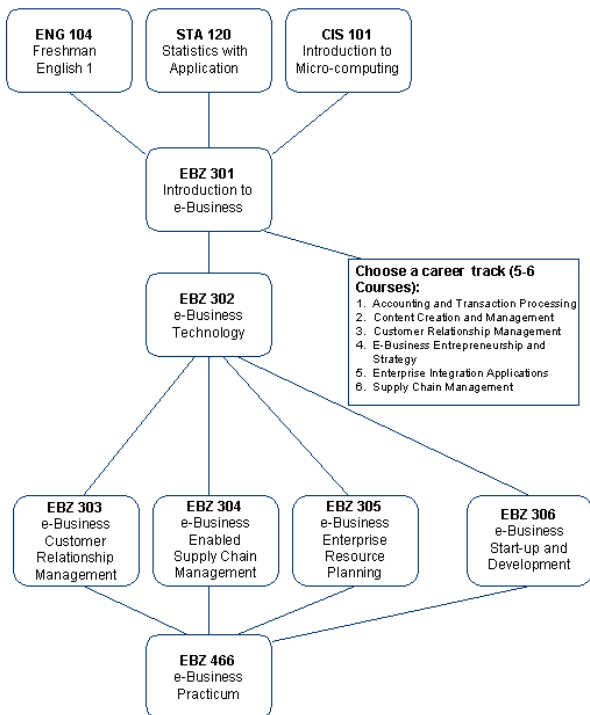
Automation and integration of corporate functions via enterprise resource technology software. Theory of and hands-on practice with ERP software. ERP implementation steps.

#### EBZ 306: e-Business Startup and Development.

Start up of Internet (dot-com) companies and development of eBusiness capabilities within existing enterprises, including identifying business opportunities, developing and implementing concepts, business planning, and obtaining financial and investment support. Emphasis on case analysis, including eBusiness failures as well as successful ventures.

**EBZ 466: e-Business Practicum** Capstone course for e-business curriculum. Practical, hands-on projects and / or applied research that integrates concepts and techniques. May also involve internships.

The diagram below illustrates the sequence of these core EBZ courses.



Beyond the foundation courses listed above, eBusiness students at CPP must complete a minimum of 20 units of coursework in one of the following career tracks:

1. Customer Relationship Management
2. Supply Chain Management
3. E-business Entrepreneurship & Strategy
4. Accounting and Transaction Processing
5. Content Creation and Management
6. Enterprise Integration Applications

Students select a career track after having taken the first introductory course (EBZ 301). The career track coursework provide students more in-depth knowledge, skills, and abilities in a sub-area of emphasis. These EBZ career tracks provide a very good definition of what e-business is.

### A MARKET-DRIVEN E-BUSINESS PROGRAM

We recognize the ultimate beneficiaries of our e-Business program are the employers of our graduates. The 13-member taskforce worked closely with our industry partners to make sure that our products (i.e., our graduates) match the need of the market (the employers).

We envision an EBZ program that will produce graduates with a thorough understanding of e-business theory and practice, and who possess well-developed technical,

written, oral and interpersonal communication skills. We expect our graduates to have developed the following specific and personal attributes:

- A basic level of skill and hands-on experience in technology tools and processes which will serve as a foundation on which to build specific expertise which may be required in a career environment
- The ability to incorporate factors from both management and technology perspectives into analysis of requirements for e-business solutions
- The ability to design e-business solutions for problems in a variety of professional contexts.
- A specialized and in-depth understanding of at least one sub-area of e-business through completion of 20 credits or more of coursework in a sub-area, and a practicum.
- The ability to think critically and creatively.
- The ability to develop and use technical skills through practice and refinement
- The ability to apply management theory to practice in a variety of contexts.
- The ability to critique and compare the perspectives of the contributing disciplines.
- The ability to study independently
- The ability to seek and acquire insight and ideas from a variety of traditional and electronic resources.
- The ability to manage and complete assigned tasks on time and according to instructions.
- The ability to work with development processes and technologies used by e-business professionals.
- The ability to work constructively in groups.