

Ecommerce at Carnegie Mellon: The MSEC Program

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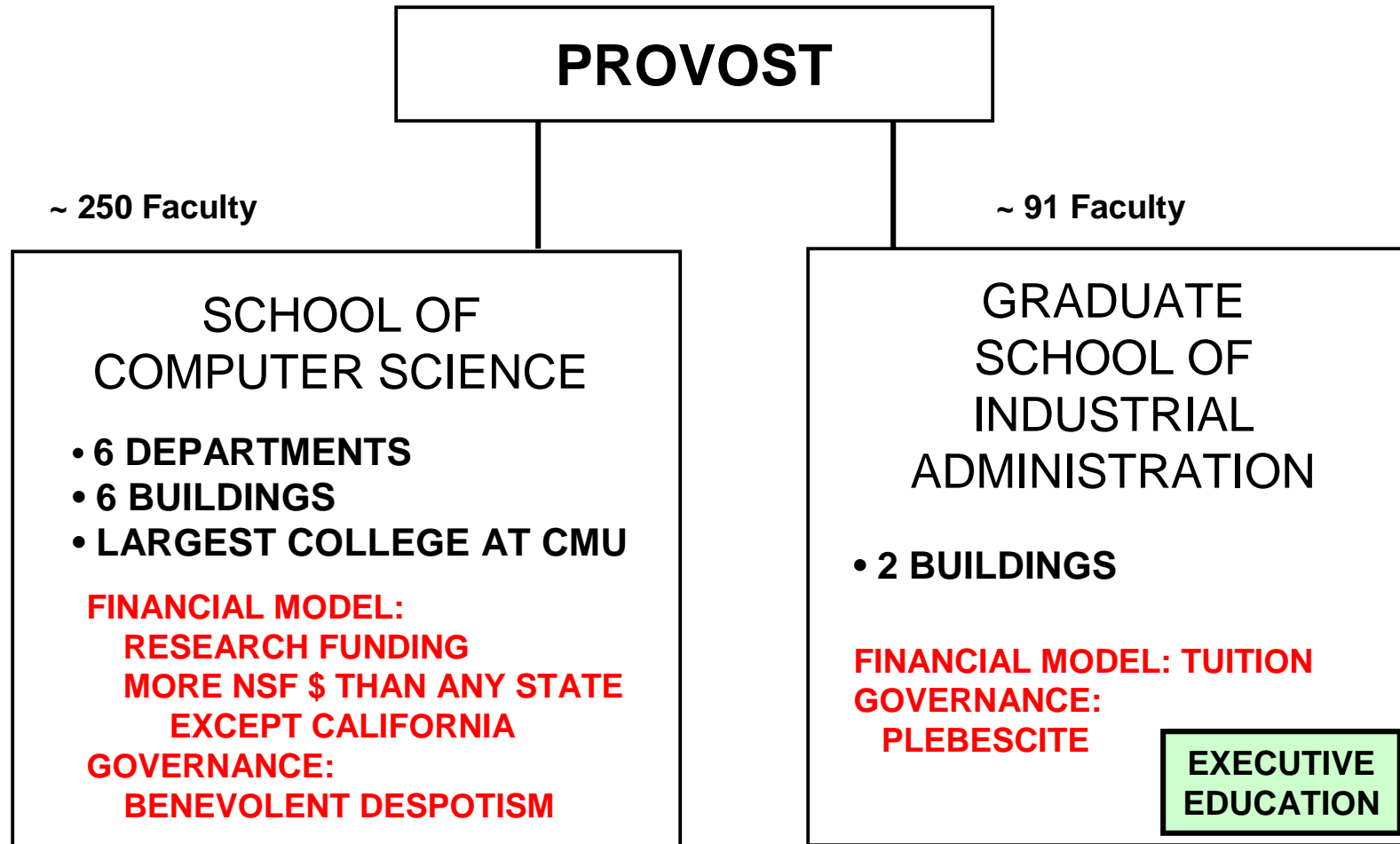
The Marketplace

- Companies (Fortune 500)
 - Consulting firms (McKinsey, Andersen Consulting)
 - E-Business (Freemarkets.com)
 - Startups (ZEFER)
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- Are you training anyone to run ecommerce businesses?
Answer (1998): no. Answer (1999): yes

CMU Ecommerce Forcing Functions

- Marketplace pressure
- Competitive pressure
 - Many universities considering programs
 - Wanted first-mover advantage
 - Pre-emptive strike
- Ecommerce at CMU was scattered
 - Computer Science, B-School, Heinz School of Management, Information Networking Institute, . . .

Carnegie Mellon Org Chart



School Rankings

- GSIA
 - #1 in Quantitative Programs, Operational Skill
 - #2 MIS, Production Management
 - #9 overall techno-MBA (Computerworld)
- Computer Science
 - #1 in Programming
 - #2 in Artificial Intelligence
 - #3 overall

The CMU Approach

- Training requires business + technology
 - Divide program equally
 - Half of an MBA, half of a CS degree — ecom-oriented
- Build on strength (GSIA + SCS)
- Administered by GSIA
- 12-month professional Master's degree:
Master of Science in Electronic Commerce

Curriculum

- 23 minicourses (1 quarter) spread over 4 quarters
 - 9 business, 9 computer science required
 - 5 electives
- One 14-week practicum (1400 student-hours)
 - Real project from industrial affiliate (\$25,000)
 - Student teams with advisor and coach
 - Market research, design, specification
 - Must produce working prototype + report
 - Affiliate receives license to work product

Curriculum

- First two quarters: fundamental skills
 - Survey courses (Ecommerce Technology)
 - Background courses (Economics, Accounting)
- Second two quarters: applications
 - Substantive courses (Electronic Payments, Internet Mktng)
 - Two electives total
- Final two quarters
 - Practicum
 - Ecommerce Law & Regulation
 - Three electives total

Technology Courses (Required)

- Ecommerce Technology (survey)
- Introduction to Web Programming
- Communications and Networking
- The Internet
- Information Retrieval (Language Technologies Inst.)
- Electronic Payment Systems
- Computer Security (CERT)
- Multimedia Technology
- System Reliability
- Human-Computer Interaction (HCI Institute)

Technology Electives

- Databases
- Data Mining *
- Electronic Negotiation
- Intelligent Agents *
- Customer Service and Help Facilities
- Collaboration Technology
- Interoperability
- Advanced Networking
- Web Architecture *
- Java Programming *

* = offered 1999-2000

Business Courses (Required)

- Introduction to Ecommerce (survey)
- Managerial Economics
- Financial Accounting
- Marketing Fundamentals
- Applied Data Analysis
- Internet Marketing
- Finance
- Supply Chain Management
- Competitive Strategy
- Ecommerce Law and Regulation

Business Electives

- Marketing Research *
- Pricing
- Change Management *
- Tax Accounting
- Entrepreneurship *
- Information Systems Development *
- Order Fulfillment
- Business Leadership
- Managing Customer Service Businesses

* = offered 1999-2000

CMU Strategy

- Achieve pre-emptive strike, operate on Internet time
- Announcement: January 1999
- Application deadline: April 1999
- Students in seats: May 1999
- Flexible, rolling admissions
 - High grades, test score, looking for drive
 - 2-week admissions turnaround
- Use Internet to promote program
 - 15,000 hits in 3 months, 60% FAQ drill-down

Publicity

- Early media, January - March 1999
 - Business Week Online, Playboy Online, Boston Globe, Wired, Computerworld, Human Resource Magazine
- Late media, April - June 1999
 - The Chicago Tribune, U.S. News & World Report, Reuters, Wall Street Journal (front page), Chronicle of Higher Ed., Business 2.0
- Summer 1999
 - Wall Street Journal (3 articles), NY Times
- October 1999
 - Business 2.0, American Airlines Magazine

Application Profiles

- Admission forms available on-line
- 800 admission packets requested
- Population strongly skewed toward business
- 45% foreign applicants; 0 from Europe, S. America
- 170 completed applications
- 43 admits
- 37 accepted; 2 declined for financial reasons; 4 requested deferral until 2000
- 8% packet requests from accountants; 0 applications

Entering Class

- 35 members (2 denied exit visas from Russia)
- 1/3 foreign citizenship
- 1/3 have MBAs
- 1/4 have Masters-level CS
- 2 Ph.D.s (Economics, Aerospace)
- Age range: 22 to 49
- Average work experience: 7.5 years
- 1 lawyer, 1 investment banker, 1 independent consultant
- 7 sponsored by corporations (full tuition + stipend)

Industrial Affiliates

Sponsor affiliates

- American Management Systems
- PNCBank
- Intel (Intel Ecommerce Laboratory)

Practicum affiliates

- Texas Supreme Court
- Barclay's Bank
 - High-dollar on-line financial transactions
- Alcoa
- WQED Pittsburgh
- ZEFER

Web Site

<http://www.ecom.cmu.edu>