Software Offshoring - Risks and Opportunities for Computing Programs

CRA Conference at Snowbird

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Panelists

- Alok Aggarwal (Evalueserve)
- *Larry Finkelstein* (Northeastern)
- *Stephen Seidman* (NJIT)

Panel Organization

- Brief presentations by panelists:
  - Aggarwal: an industrial view of software offshoring
  - Seidman: brief survey of reported trends; impact of the perception and reality of software offshoring on programs and departments in the computing disciplines
  - Finkelstein: ways in which academic programs can be restructured to make students more competitive in the global software environment

- Discussion and questions

What are the trends?

- Primary source: Article by Fred Niederman in *IEEE Computer* (January 2004).
- What sort of hard data (or serious estimates) do we have for IT offshoring?
  - 12% of US IT-producing companies have moved jobs offshore. (2003 ITAA data)
  - 10% of IT work currently performed in US IT-producing companies will be offshored. (Gartner Group estimate)

- Can we break this down for different sectors of the industry or different job classifications?
  - Only 3% of non-IT-producing companies have moved jobs offshore. (2003 ITAA data)
  - 5% of IT work currently performed in US non-IT-producing companies will be offshored (Gartner Group estimate)

- Do we have any longitudinal data?
  - We have experience with periodic job fluctuations in IT (and in engineering).
  - We have experience with the impact of offshoring on manufacturing.
  - It isn’t clear how these can be combined to make predictions for the impact of offshoring on IT jobs.

Impact on Computing Programs

- Enrollment declines
  - Undergraduate:
    - Decline of 23% in new BS enrollment (Taulbee, 2003)
    - Anecdotal reports of an additional 25% decline in new students for Fall 2004
    - Similar reports from UK universities
    - Negative student and parent perceptions
      - Media reports: current job losses, future declines
    - Do we have hard data on employability of graduates that can be used to counter these perceptions?

- MS and PhD: hard to disaggregate data
  - 8% decline in new MS enrollment (Taulbee, 2003)
  - The Taulbee data is not disagreggated:
    - Decreased international enrollment
      - » INS concerns; are the students going elsewhere?
    - Decreased part-time enrollment
      - » Are employers less willing to pay for tuition?
    - Increases in full-time domestic enrollment?

- We need good data
  - on employment of recent graduates,
  - on employment of computing professionals with experience,
  - on undergraduate and graduate enrollment,
  - on domestic and international enrollment.