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 disaggregated:
  – 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.