

## Is IT Dead or Just Resting?

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## IT Labor Force

- Estimated 9.9 million US "IT workers" in May 2002
  - Down from 10.4 million in 2000
  - Biggest cuts in tech support
- Estimated 2 million programmers
- Latest CIO.com survey finds
  - Fewer layoffs in 2003 than 2002 (35% of firms)
  - One third of CIOs currently hiring
    - Overall IT workforce to grow less than 1%
    - "record low" of 493,000 new positions
  - Top skills: application development, project management

## IT Spending by Business

- Rapid increase during late 1990s
  - E.g. 23% rise from 1999 to 2000 (to \$532 by US businesses).
  - Up 18% in from 1998 to 1999
  - Then forecast to continue at 13% or more per year
    - E.g. in 2000, Garner forecast rise from \$1.4 trillion to \$2 trillion globally by 2003
- In fact, IT spending in 2003 is down slightly from 2000
- According to Financial Times, Dec 9 (based on Gartner survey)
  - IT spending in big firms will remain flat
  - IT spending in mid sized firms will "grow modestly"

## Foreign IT Workers

- Popular target for complaints by unemployed American IT workers
- Many foreign tech workers here on H1-B visas
  - Sponsored by US employers
    - Only with specialized skills and degrees
    - Have to show that no US worker available
    - Supposed to pay the same as US workers
  - Number of visas increased hugely during IT boom
    - For IT, 106,000 in 2000, 27,000 in 2001
  - Not necessarily a great deal for employee
    - Can work only for specified employer
      - Must leave US immediately if terminated
    - Maximum of six years allowed in USA
    - Time does not count toward permanent residency

## Outsourcing

- Popular trend in business: subcontract non-core operations to specialist firms
  - Examples, many
    - Universities outsource dining services
    - Corporations outsource building management
    - Electronics firms outsource manufacturing
- Since 1960s, many firms have tried IT outsourcing
  - Facilities Management contracts to operate server rooms
  - Contracts to operate network systems
  - Help desk, support and training frequently outsourced
- Much development work always outsourced
  - Use of consultants and packages

## International Outsourcing

- Network infrastructure makes almost as easy to move a call center abroad as across town
- Tend to pick countries with
  - Low wages
    - About 10% of comparable US wages for IT workers
  - Many English speakers
  - Excellent technical education
- Examples
  - New York City parking tickets processed in India
  - Many PC firms run help desks in Ireland
  - Increasingly, video game development done in Russia

## Common Offshore Tasks

- Forrester Research Estimates 3.3 million US white-collar jobs shifted by 2015
  - Most to India
- Customer service
  - Help for users with generic computer problems
- Technical help desks
  - Dell recently returned some server support from Bangalore
- Code development
  - Often from design and analysis done in USA
  - Indian firms winning increasing business
- Web site creation
- Non-IT include accounting, biotech, design, lawyers, etc.

## Technological Unemployment

- Previous technological shifts often threatened mass unemployment
  - Luddites and textiles in early 19<sup>th</sup> Century
  - Automation in the 1960s, etc.
- So far, technology has always produced more jobs
  - But not always for the people, places or skills where the old ones were
  - Many kinds of job are leaving the US entirely
    - Currently about 11% of US jobs are in manufacturing
    - Compared with more than half at the peak

## Conclusions

- These is still a long-term need for IT people
  - Informatics approach makes sense here
- Broader, less technical jobs harder to outsource
  - Though programming skills remain more tangible
  - Project management hard to outsource and always in demand
- Get experience you can sell to employers
  - Stay flexible
  - Don't be afraid of trying different things...

The End