



Sloan 2004 Annual Conference

Outsourcing and Off-Shoring: Construction Industry

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Construction Industry Issues

Outsourcing

- Size of market--\$3.4 trillion worldwide
- Traditional outsourcing arrangements
 - ✓ Inherently owner functions versus
 - ✓ Contractor functions
- Demographic changes here in US
- Human capital concerns

Construction Industry Issues (Cont'd)

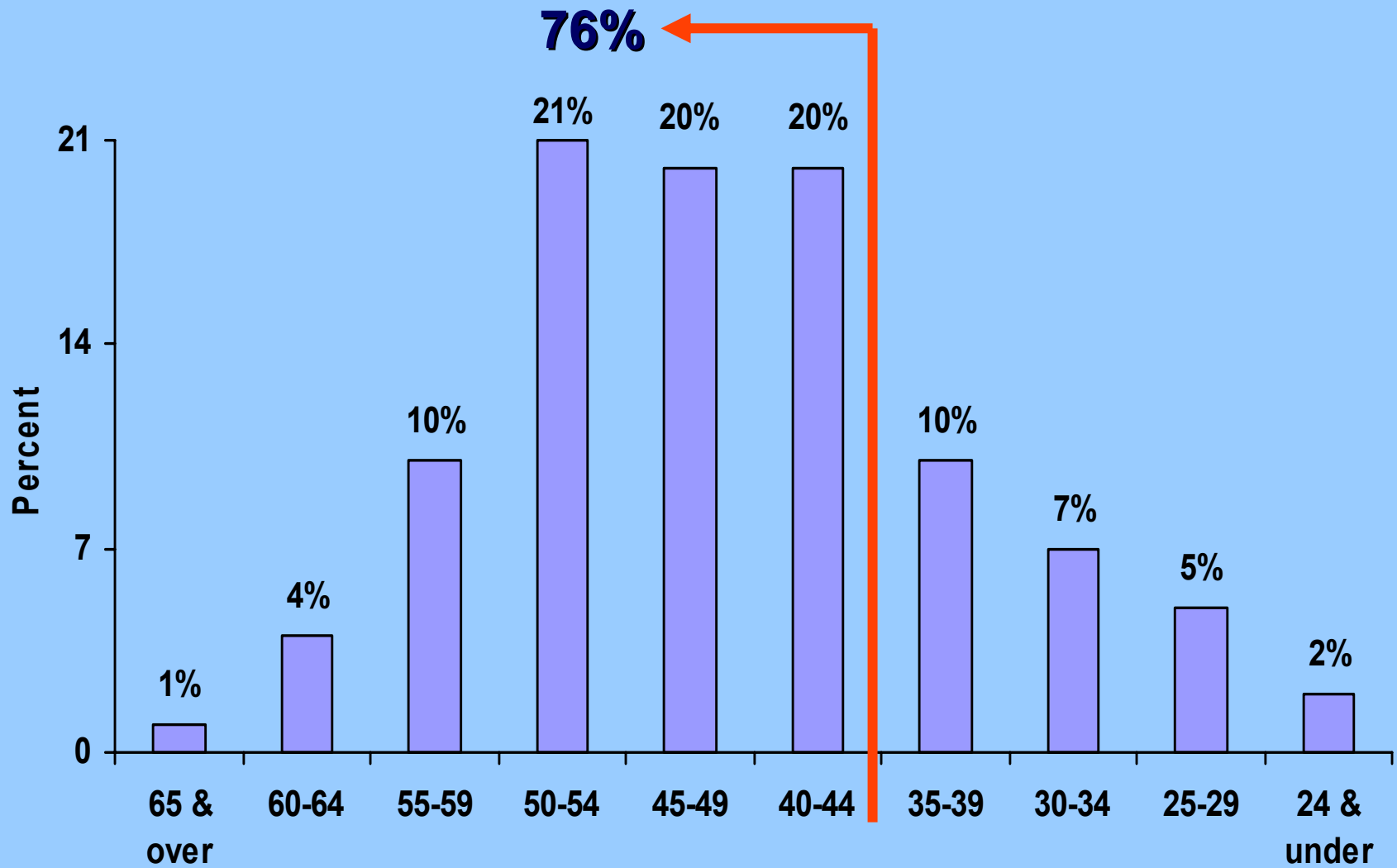
Off-shoring

- Client requirements—embedded relationships
- Attractiveness of international ventures
- Emerging markets; Local focus
- Information technology changes
- Price pressure? Efficiency?

Outsourcing

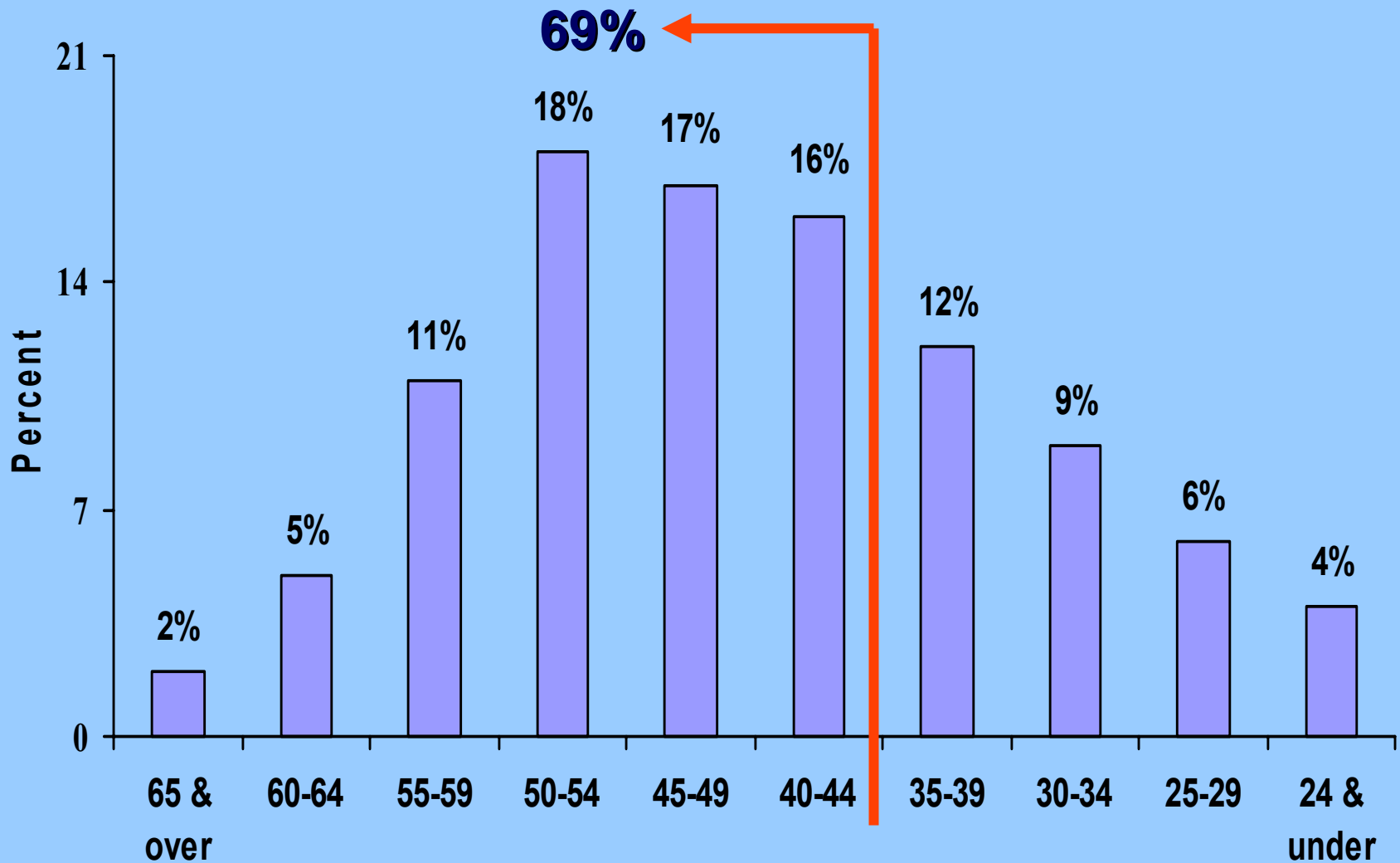
Demographics Study, Fall 2000

- Demographic makeup of current project management professionals in US
- Study involving 50 CII member companies
 - ✓ 23 Contractors, 27 Owners participated
 - ✓ ~40,000 project management professionals
- Projections for future
- US Census data over past 20 years



Mean Percentage of Owner Firms' Project Engineering Workforce in each 5-Year Age Cohort (N=27)

Source: Center for Construction Industry Studies, Report 21



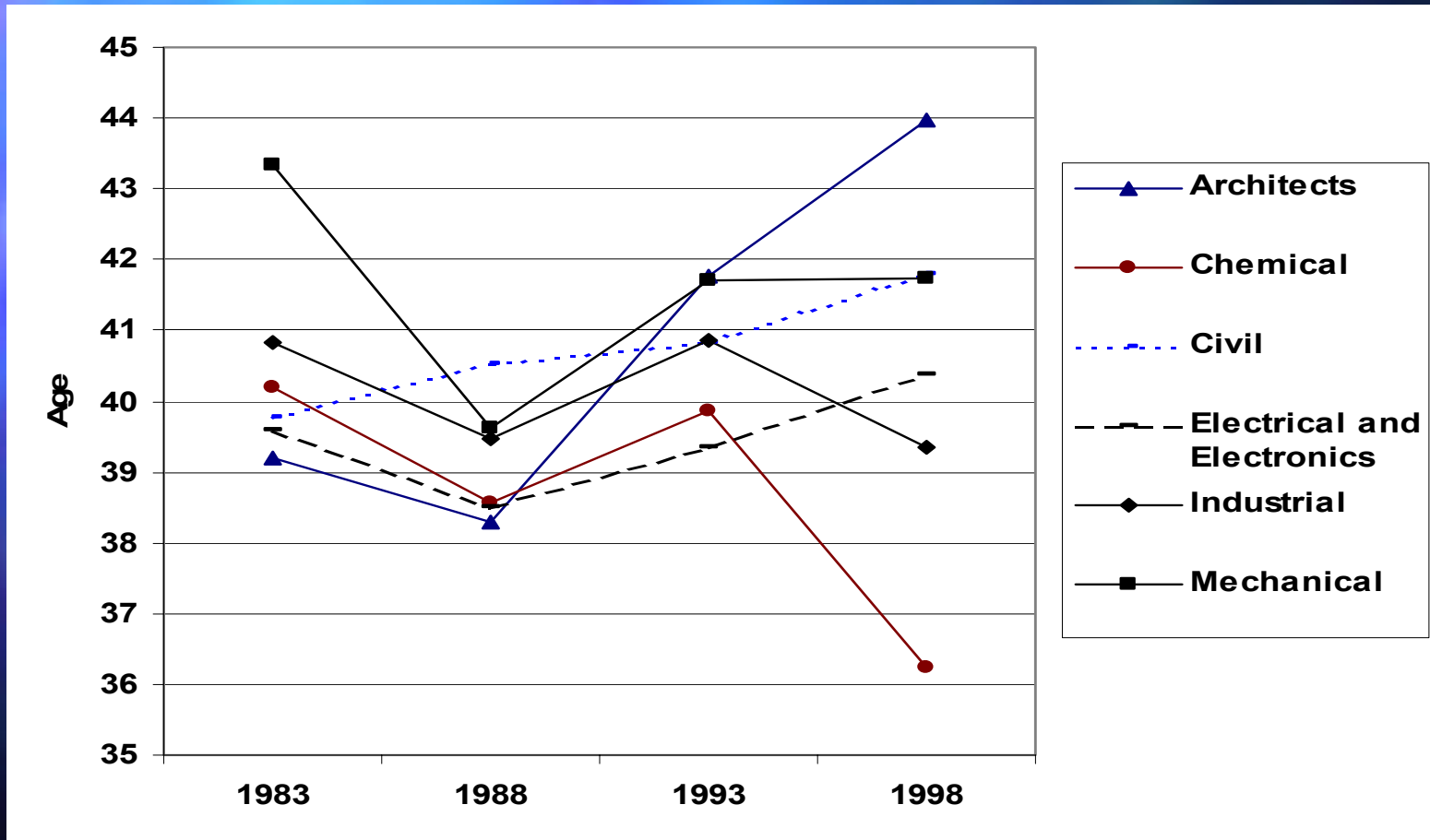
Mean Percentage of Contractor Firms' Project Engineering Workforce in each 5-Year Age Cohort (N=23)

Source: Center for Construction Industry Studies, Report 21

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U.S. Census Panels 1983-1998

Project Engineering Professionals



Source: Center for Construction Industry Studies, Report 21

Findings—Domestic Demographics for Project Management Professionals

- Downsizing on owner side seems to be at an end
- Hiring to replace retirees and fill knowledge gaps taking place
- Significant loss of expertise on both owner and contractor side in the near future (expertise = knowledge)
- Gap between older workers and younger workers--similar in owners and contractors

Recommendations--Demographics

- Look at demographic change as an **opportunity** and plan for it
- Focus on project management practices as core competencies—owners and contractors
- Five years or less to transfer key knowledge
 - ✓ inculcate as much knowledge as possible into your processes
 - ✓ hire project engineering professionals and mentor them--address cohort problem
 - ✓ have experienced personnel provide training—transfer tacit knowledge
 - ✓ manage/provide career paths
 - ✓ hire competent people **NOW**—many on the street

Globalization and Off-shoring

- Design—50% savings claimed using foreign design firms for low and high-end design services
- US producing approximately 70,000 engineers per year v. 450,000 per year in China
- NSPE's stance:
 - ✓ Concerned about loss of jobs to overseas firms
 - ✓ Feels outsourcing could eventually jeopardize national security
 - ✓ Ethical and professional issues also exist
 - ✓ Opposes raising H1-B visa cap above 65,000 (currently at 195,000) in US
- Construction—mostly imported labor; but much of project work going elsewhere

Off-shoring: Good or bad?

- Only time will tell....
- We are not in a closed system anymore
- Very complicated questions
- Major changes always bring opportunities
- Water, biotech, transportation, security