

The Industrial Opportunity: A View From Industry and Academia

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Outline

- Background
- Industry or Academia?
- Understanding Industry
- Top 5 Things to Remember

Background

The Industrial Opportunity

Personal

- Experience in both industry and academia
 - ◆ 2 years at a national research laboratory
 - Communications Division, Lincoln Laboratory
 - ◆ 4 years as a graduate student
 - MIT OR Ph.D., 1987
 - ◆ 10 years in academia
 - Tenured professor, Department of Industrial Engineering, Texas A&M University
 - ◆ 3 years in industry
 - Vice President of Research and Design, PROS Strategic Solutions, January '97

PROS Strategic Solutions

- Revenue management products company for over 15 years
- Over 170 installed revenue management systems with more than 70 companies around the world
- Solutions for the airline, energy, cargo, broadcast, healthcare, and rail industries

PROS Personnel

- Currently 160+ staff with rapid growth
- Staff Distribution
 - ◆ 20 Research & Design
 - ◆ 100 Development, Quality Assurance, Support
 - ◆ 25 Business Consulting
 - ◆ 7 Marketing & Sales
 - ◆ 15 Administration and Executive
- More than 1/3 of staff with advanced degrees
 - ◆ 21 Ph.D.
 - ◆ 64 Masters
- Multinational, multilingual staff from over 25 different countries & territories

Industry or Academia?

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Industry or Academia?

- Academic Advantages
 - ◆ Free to investigate topics of own choosing
 - ◆ Largely free to establish work schedule
 - ◆ Opportunity to teach
- Academic Disadvantages
 - ◆ Conflicting, ill-defined, and frequently impossible goals for achieving tenure!
 - ◆ Extremely competitive market with a relatively small number of employers

Industry or Academia?

For highly trained individuals with good people skills...

■ Industry Advantages

- ◆ Unlimited exciting opportunities
- ◆ Market competition favors individuals
- ◆ New challenges daily with many different career growth opportunities
- ◆ Excellent compensation

■ Industry Disadvantages

- ◆ Requires daily career management

Understanding Industry

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Defining Industry

- A career in “industry” is an oversimplification, since there are many, many types of industrial positions
- Understanding the types of companies and the types of positions available in these companies can help you achieve your career goals

Industry Career Examples

- Product Development Group, IBM Yorktown Heights
 - ◆ Mathematical/algorithmic focus, relatively well-defined objectives, minimal contact beyond co-workers, minimal travel, limited independence
- Consultant, Andersen Consulting
 - ◆ Focus on billable hours and consultive sales, problem solving, extensive client contact, extensive travel, independence grows with seniority

Industry Career Examples

- Product Designer and Developer, small company
 - ◆ Focus on all system aspects, sales support, client contact, travel, reasonably high level of independence
- Service or Product, self employed
 - ◆ Focus on making a living, problem solving, extensive client contact, extensive travel, finance, company growth, total independence

Many Types of Positions

- Research
- Development
- Technical Consulting
- Technical Sales
- Management

Relevant Attributes to Consider when Evaluating a Position

- Daily activities
 - ◆ Specialized or general
 - ◆ Self-defined or management defined
 - ◆ Travel
 - ◆ Client contact or internal
- Personal growth opportunities
 - ◆ Within profession
 - ◆ Within organization
- Compensation

Relevant Company Attributes to Evaluate When Seeking a Position

- Stability
 - ◆ New or established
 - ◆ Management
- Work environment
 - ◆ Button down or cut-offs
 - ◆ Attitude of people
- Focus
 - ◆ Product or service
 - ◆ Type of product or service
- Size

Company Size

- Very small – 1 to 9 people
 - ◆ Plan on doing a bit of everything!
- Small – 10 to 99 people
 - ◆ Highly entrepreneurial
- Medium – 100 to 999 people
 - ◆ Transition
- Large – 1000+ people
 - ◆ Specialization

Top 5 Things to Remember

The Industrial Opportunity

Top 5 Things to Remember

1. Learn to communicate
2. A position is what you make of it
3. You have strong technical skills; now develop true domain expertise in an application area
4. There are unlimited exciting opportunities in industry; if you're not enjoying what you're doing, do something else
5. Industry puts you much closer to real problems and the cutting edge of operations research

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