Co-Development Survey Results

Includes participants from

- *Management Roundtable Conference*
- *Product Development Management Association*
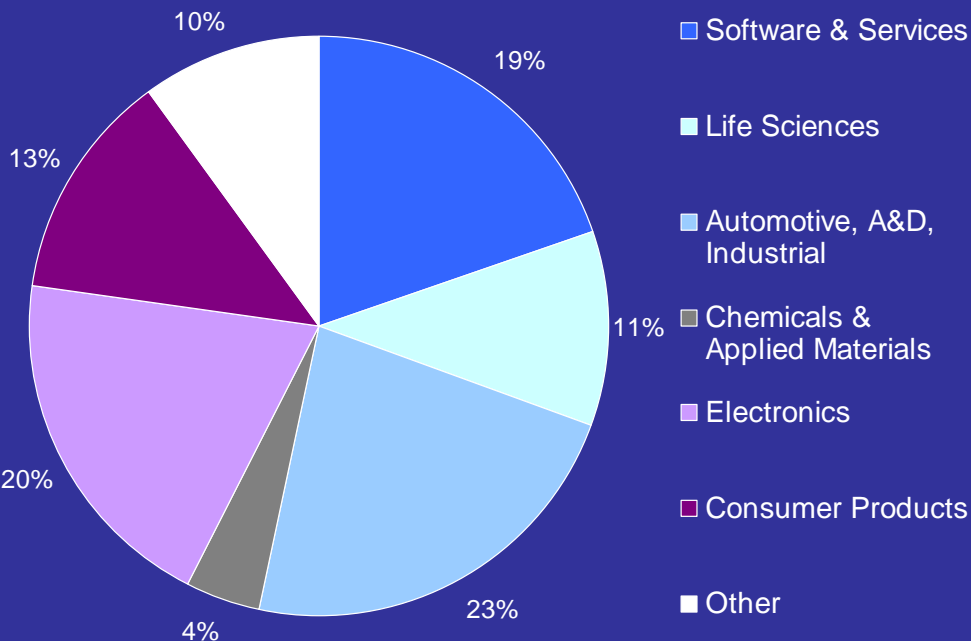- *PRTM – InfoSys Co-Dev Seminar*

January 27, 2003

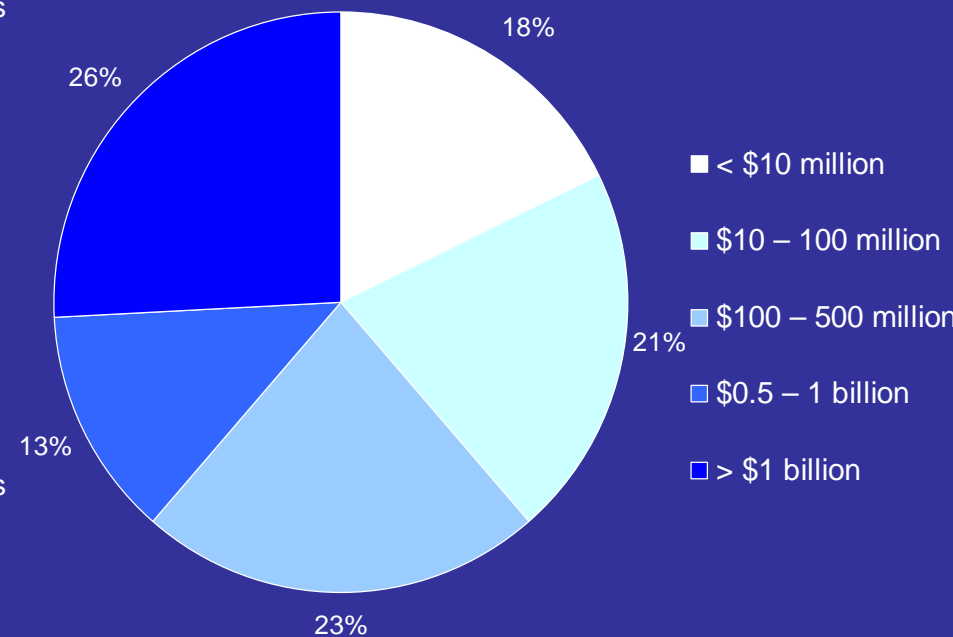**Pittiglio Rabin Todd & McGrath**

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Survey participants provide a good industry and company size cross-section

164 participants as of January 2003 (database started January 2002)

Participants by Industry

- Software & Services
- Life Sciences
- Automotive, A&D, Industrial
- Chemicals & Applied Materials
- Electronics
- Consumer Products
- Other

19% 11% 23% 4% 20% 13% 10%

Participants by Size (Annual Revenues)

- < $10 million
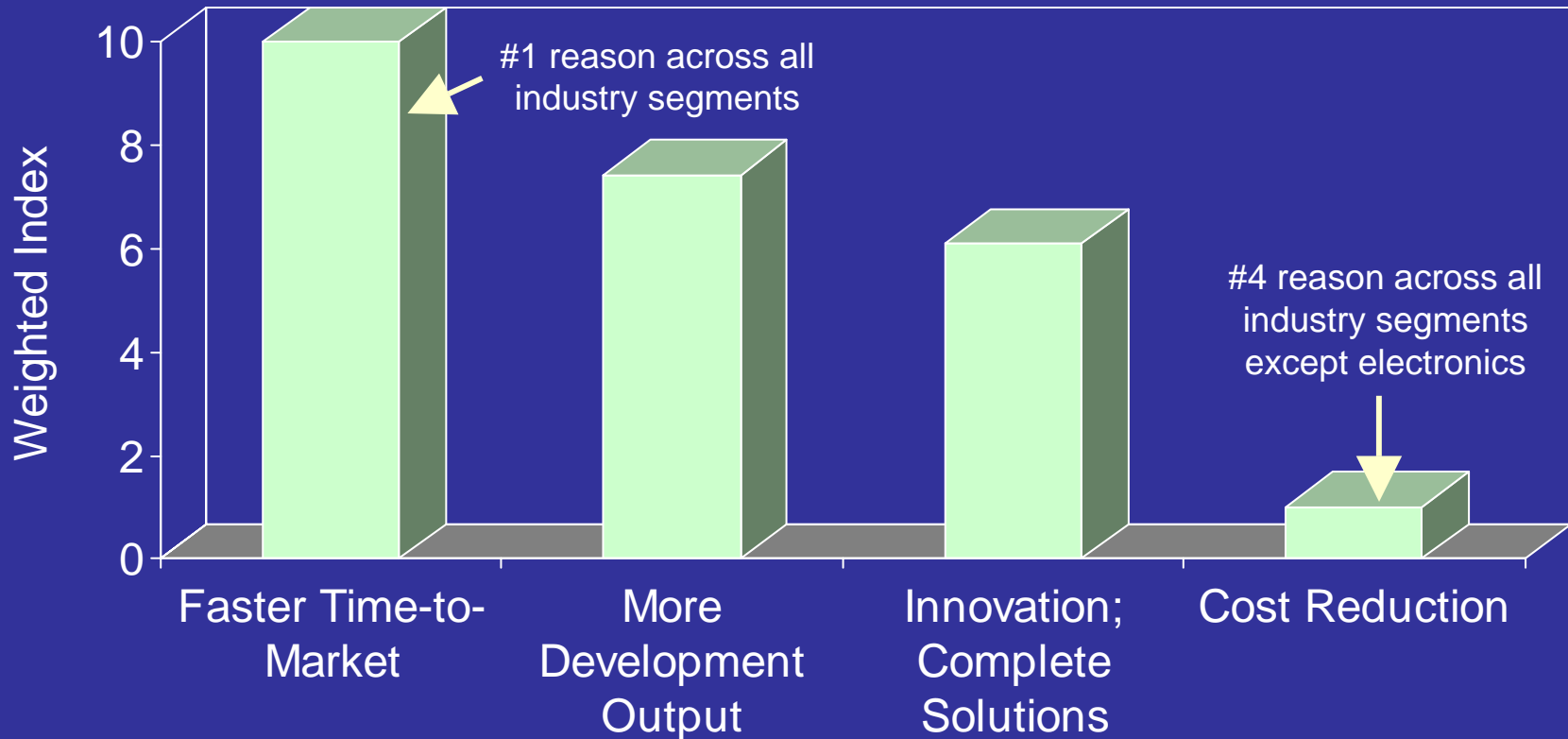- $10 – 100 million
- $100 – 500 million
- $0.5 – 1 billion
- > $1 billion

18% 21% 23% 13% 26%

1

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Faster time-to-market is the leading reason for undertaking co-development

Relative Importance of Reasons for Co-Development

#1 reason across all industry segments

#4 reason across all industry segments except electronics

Weighted Index

Faster Time-to-Market · More Development Output · Innovation; Complete Solutions · Cost Reduction
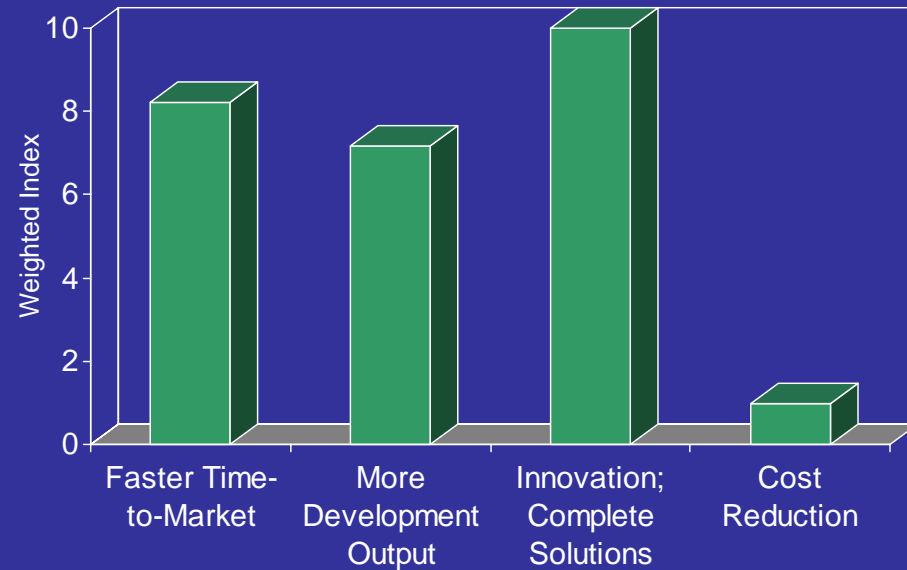
2

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Time-to-market is the #1 motivator for small companies, and innovation is for large ones

Relative Importance of Reasons for Co-Development
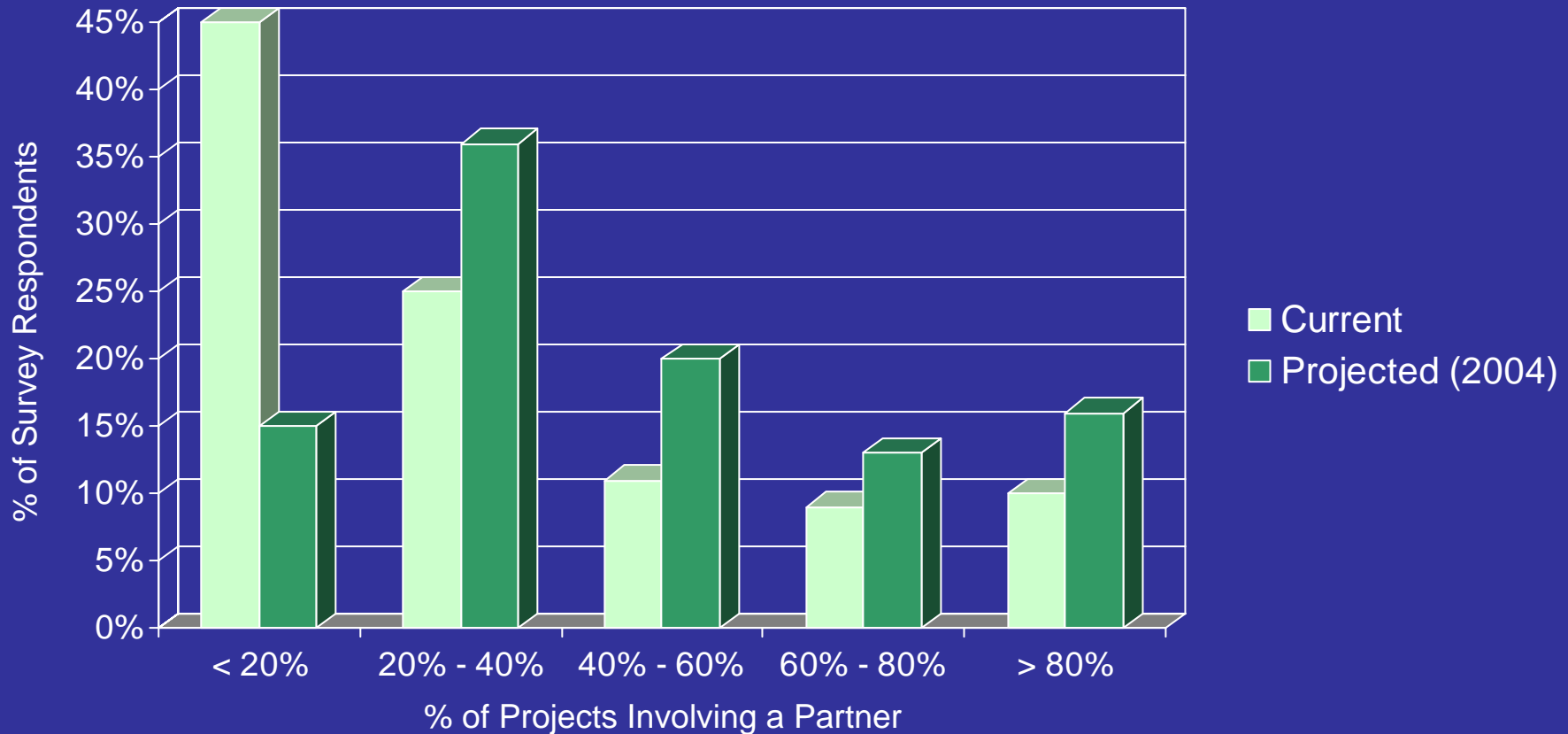
Small Companies (<$500M Revenues)
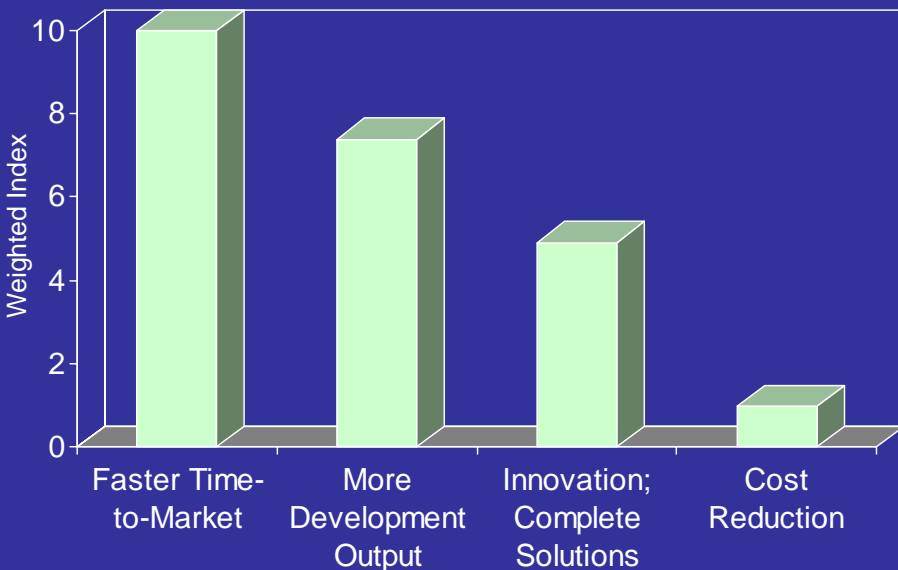
Large Companies (>$500M Revenues)

Over the next several years, companies expect co-development to increase significantly

Percent of Projects Involving a Defined, Strategic Partner

Legend:
- Current
- Projected (2004)

Y-axis: % of Survey Respondents (0% – 45%)

X-axis: % of Projects Involving a Partner — < 20%, 20% - 40%, 40% - 60%, 60% - 80%, > 80%

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Performance of co-development projects is mixed

Performance of Co-Development Projects as Compared to In-House Projects

54% for life sciences and automotive/ A&D/industrial segments vs. 37% for other segments

■ Worse ■ About the same (+/- 10%) ■ Better

Over 2/3 of companies are not satisfied with their co-development efforts

Overall Satisfaction with Co-Development Efforts

8%

21%

18%

5%

48%

- Not Satisfied
- Somewhat Unsatisfied
- Neutral
- Somewhat Satisfied
- Very Satisfied
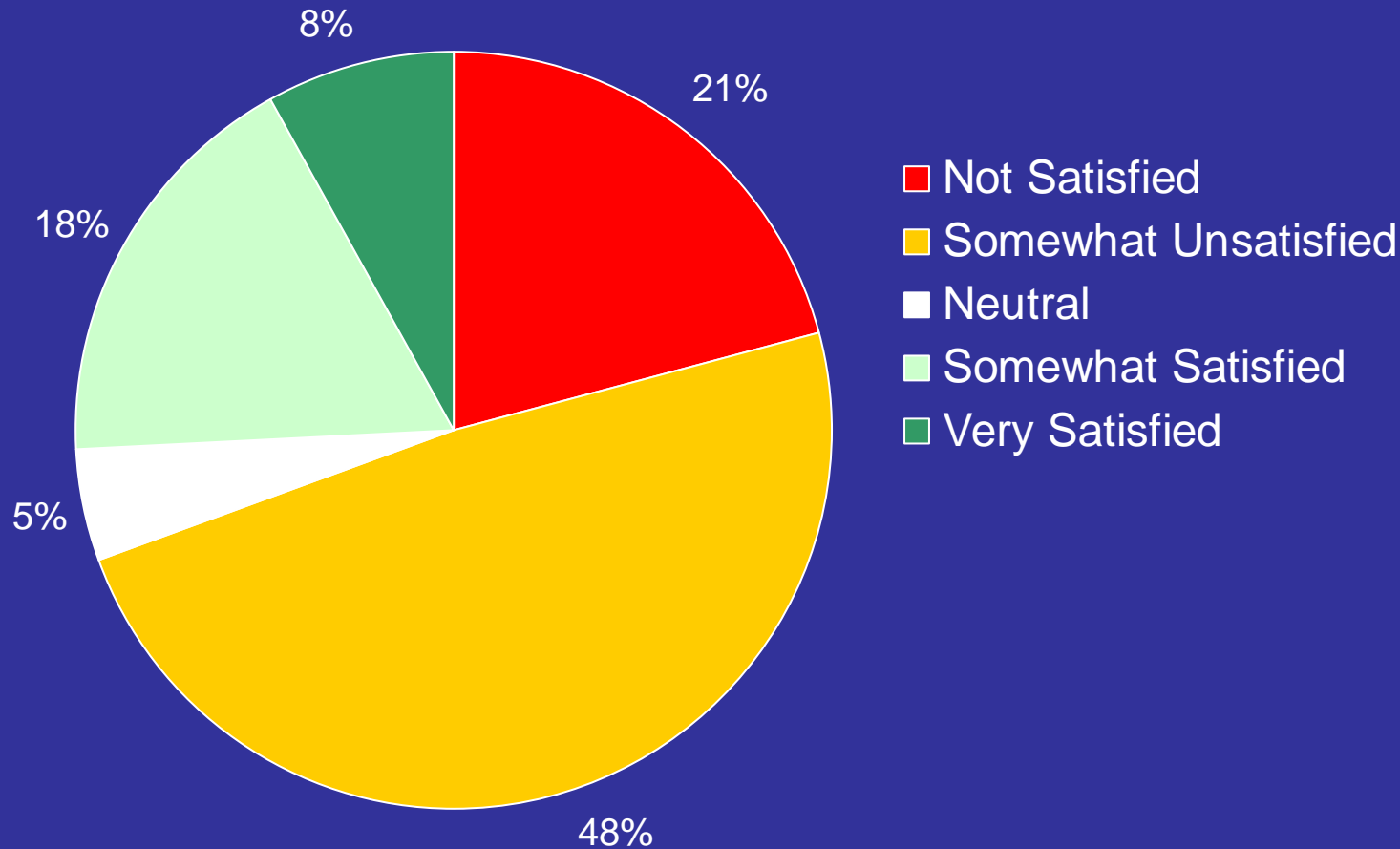
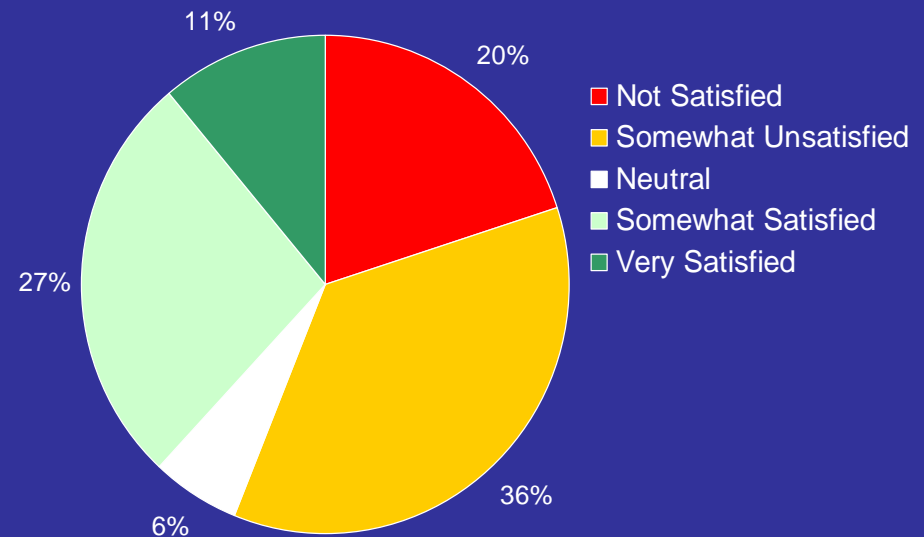# Satisfaction with co-development efforts is starting to improve

Overall Satisfaction with Co-Development Efforts

September 2002 and Prior

6%
21%
12%
3%
58%

- Not Satisfied
- Somewhat Unsatisfied
- Neutral
- Somewhat Satisfied
- Very Satisfied

October 2002 and Later

11%
20%
27%
6%
36%

- Not Satisfied
- Somewhat Unsatisfied
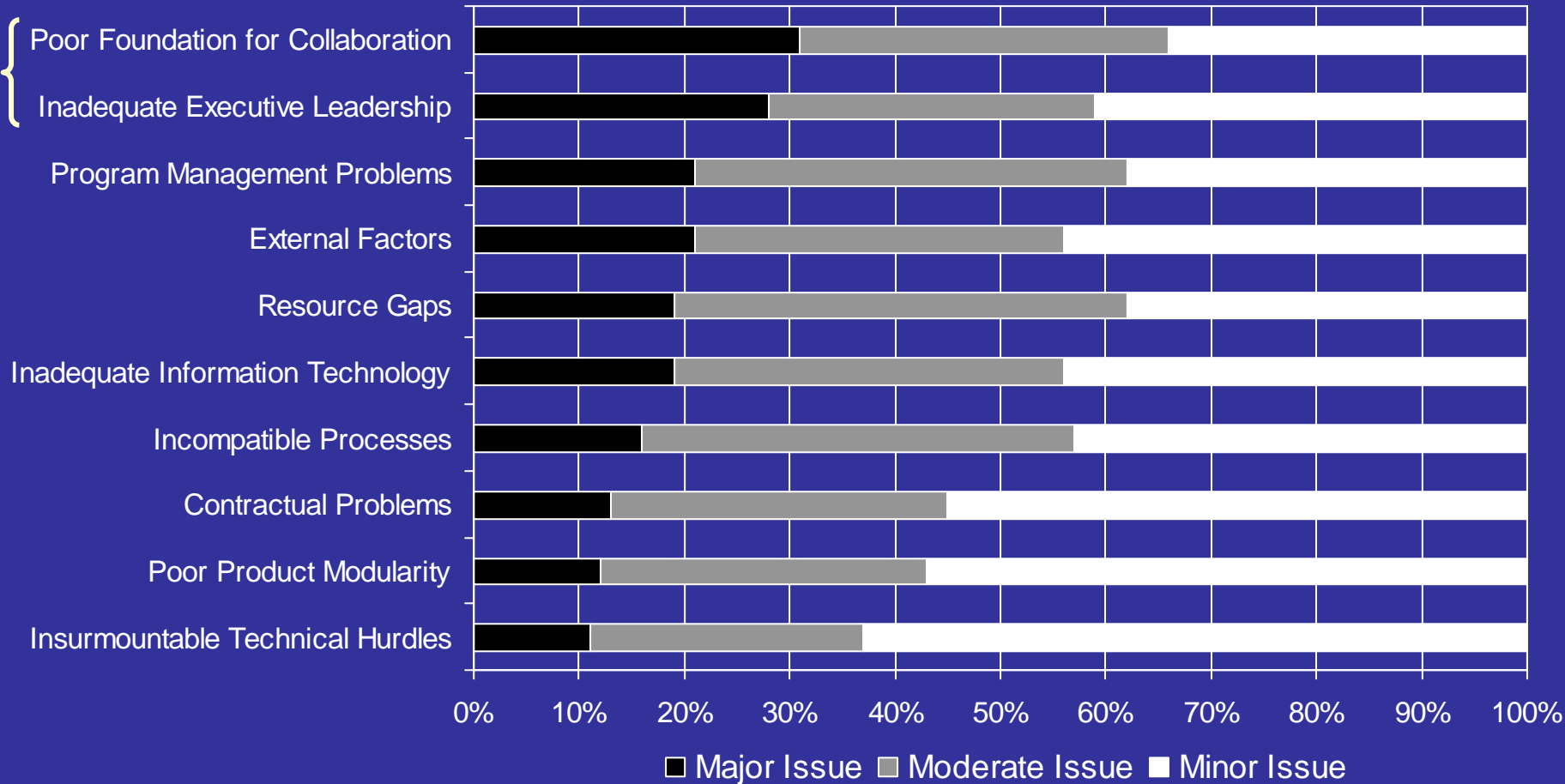- Neutral
- Somewhat Satisfied
- Very Satisfied

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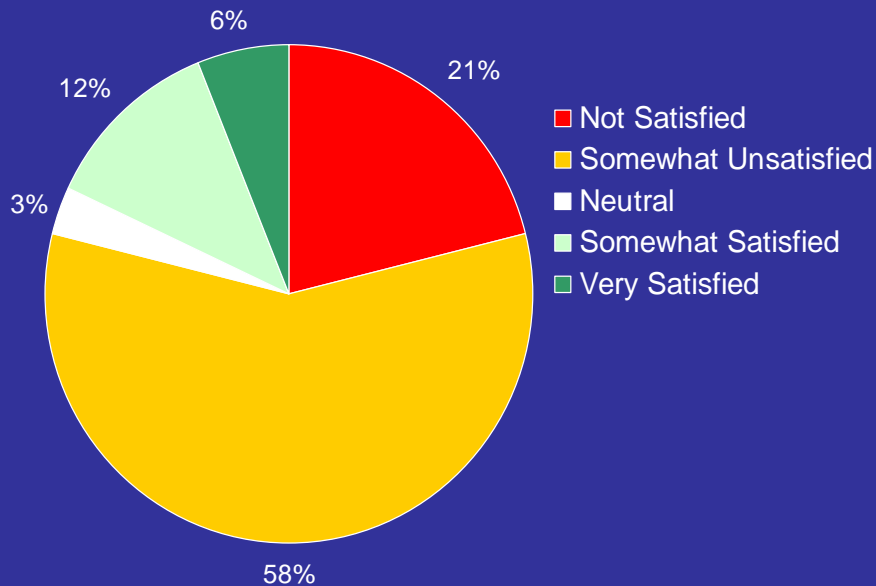
Management issues continue to top the list of concerns

Collaborative Development Issues

Top issues across all industry segments:
- Poor Foundation for Collaboration
- Inadequate Executive Leadership

Program Management Problems
External Factors
Resource Gaps
Inadequate Information Technology
Incompatible Processes
Contractual Problems
Poor Product Modularity
Insurmountable Technical Hurdles

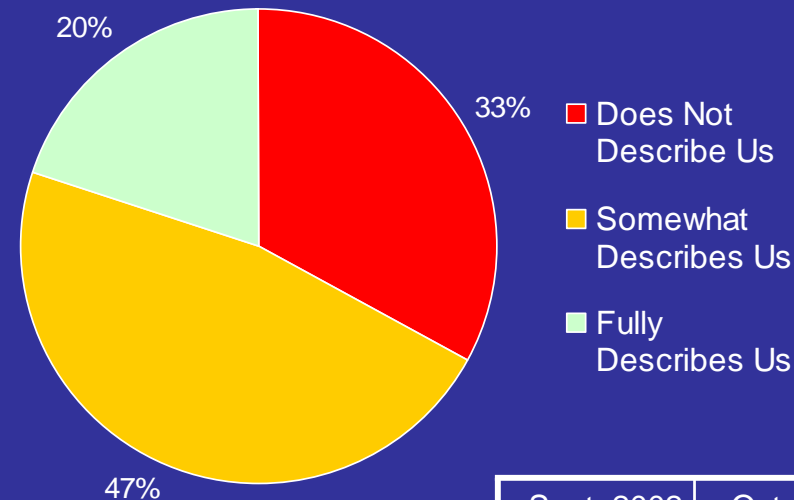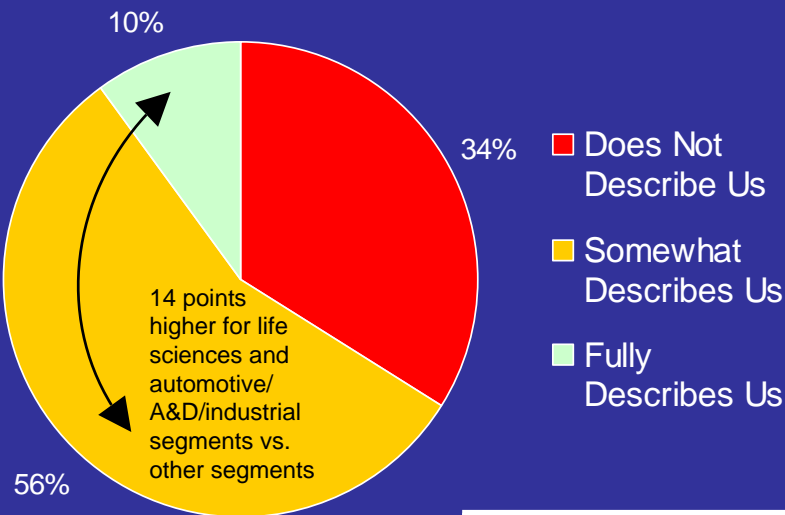0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Major Issue   ■ Moderate Issue   ■ Minor Issue

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A minority of companies have a strategy and culture that fully support collaboration

"We Have an Explicit Co-Development Strategy That Considers Business Needs, Core Competencies, and Value-Add in Delivering Solutions"

10%

34%

56%

14 points higher for life sciences and automotive/ A&D/industrial segments vs. other segments

- 🟥 Does Not Describe Us
- 🟨 Somewhat Describes Us
- 🟩 Fully Describes Us

	Sept. 2002 & Prior	Oct. 2002 & Later
Does Not Describe Us	39%	26%
Somewhat Describes Us	53%	60%
Fully Describes Us	8%	14%

"We Have a Company Culture That Supports Deep Collaboration with Key Partners"

20%

33%

47%

- 🟥 Does Not Describe Us
- 🟨 Somewhat Describes Us
- 🟩 Fully Describes Us

	Sept. 2002 & Prior	Oct. 2002 & Later
Does Not Describe Us	39%	25%
Somewhat Describes Us	46%	48%
Fully Describes Us	15%	27%

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The survey assesses the importance and deployment of seven specific practices

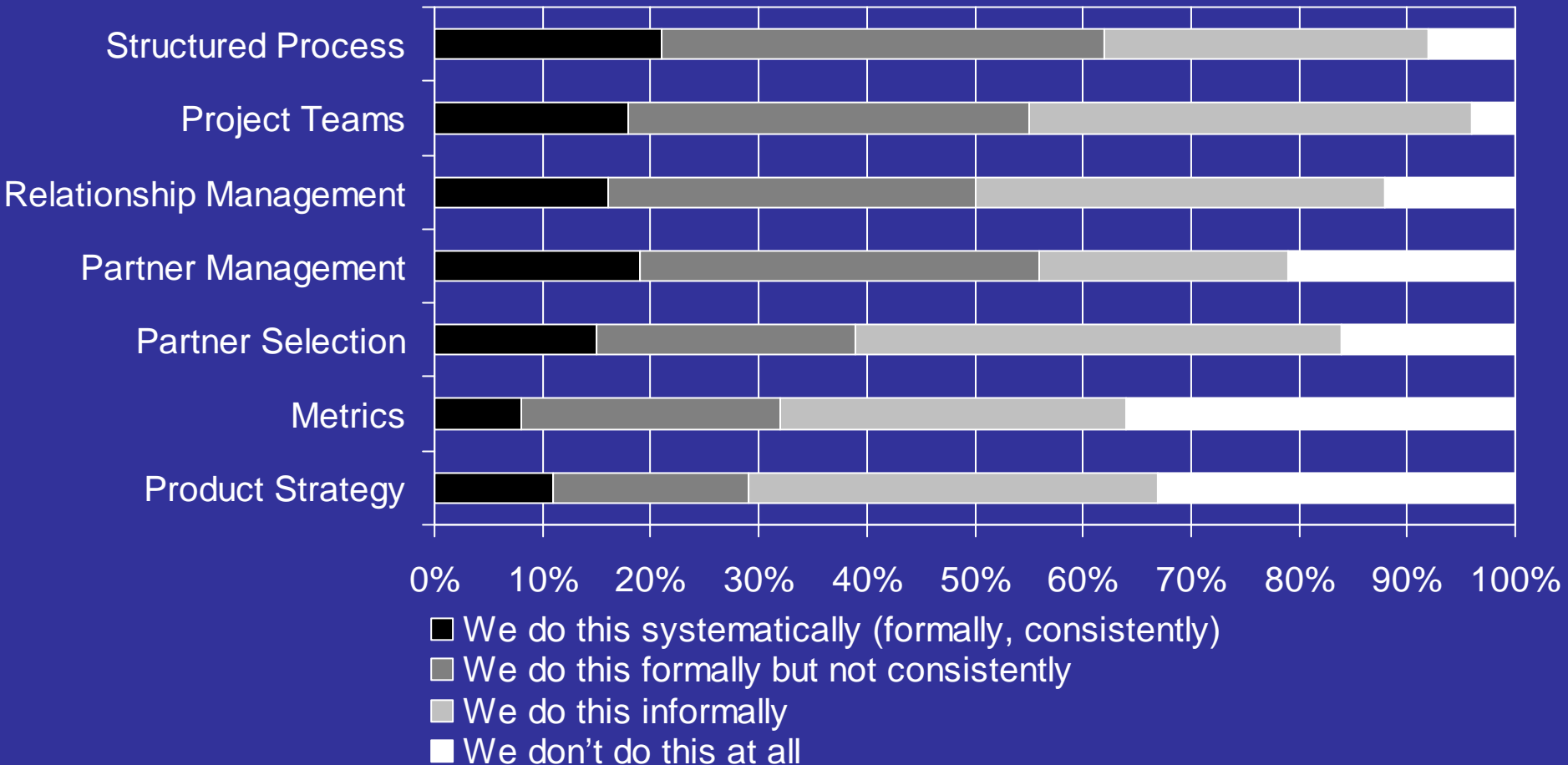| Practice	Definition
Structured Process	Product development follows an integrated concept-to-launch process that extends to business partners—deliverables have a common definition across organizations, and the process is easily tailored to specific project needs.
Project Teams	Key internal and external partners are represented on project teams, including customers and suppliers as appropriate. Roles are well-defined.
Relationship Management	There are designated executive sponsors from your company and from your partners to manage collaborative relationships; issues are resolved smoothly and effectively.
Partner Management	There is a comprehensive process for managing co-development partners; specific activities and interactions are codified with Joint Development Agreements (JDAs) based on standard, best-practice templates.
Partner Selection	The process and criteria for selecting and evaluating new partners are clearly defined.
Metrics	There are clearly defined metrics to measure and evaluate the performance of collaborative development relationships and projects.
Product Strategy	Product and technology roadmaps are jointly developed with key partners and are aligned across multiple organizations to provide total customer solutions.

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All emerging co-development practices are judged as relatively important to success …
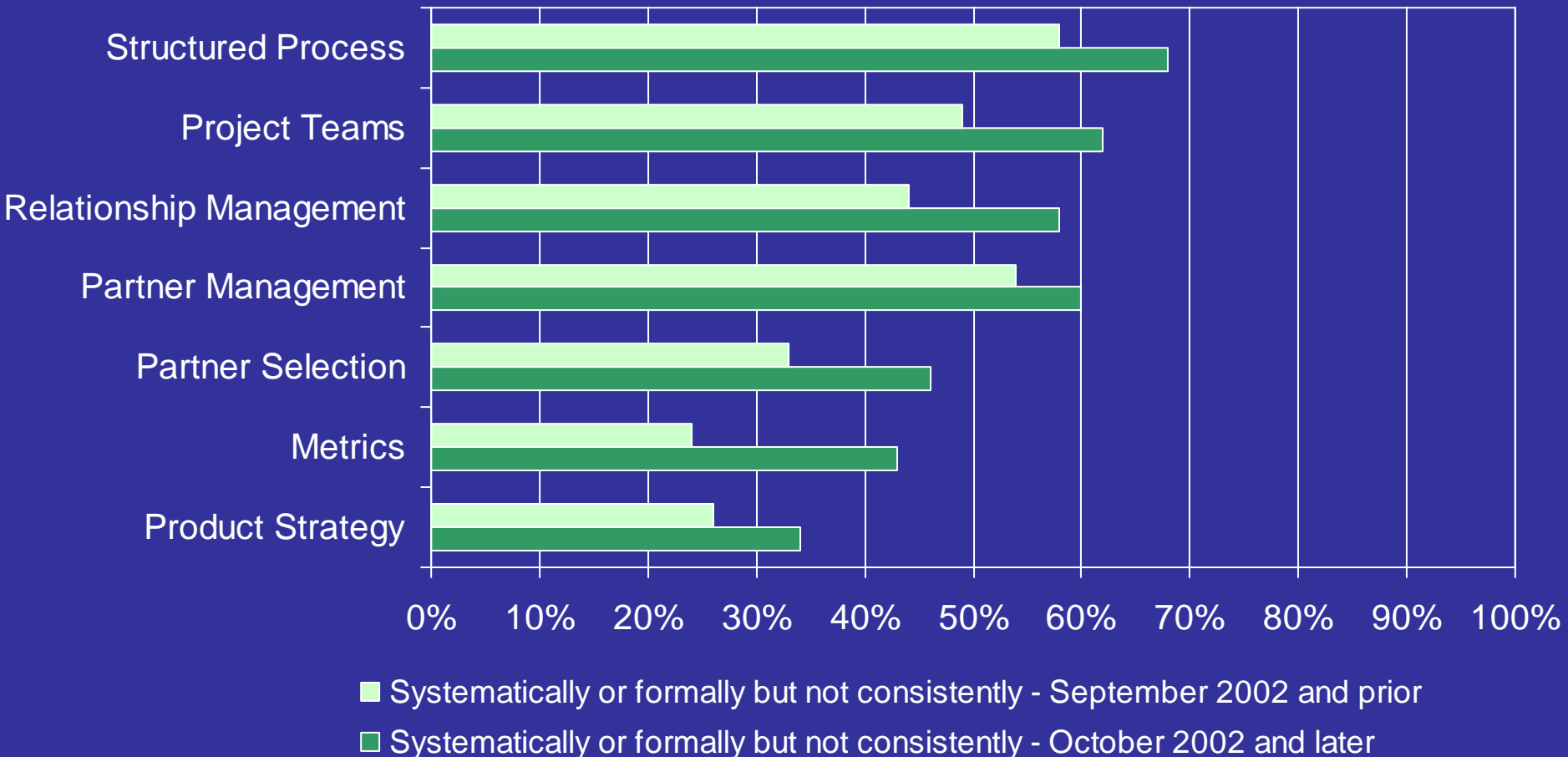
Importance of Co-Development Practices

Bar chart showing importance ratings for co-development practices:

Practice	Very important	Somewhat important	Unimportant
Structured Process	~85%	~14%	~1%
Project Teams	~81%	~16%	~3%
Relationship Management	~68%	~28%	~4%
Partner Management	~64%	~34%	~2%
Partner Selection	~64%	~33%	~3%
Metrics	~62%	~37%	~1%
Product Strategy	~57%	~38%	~5%

Legend: ■ Very important ■ Somewhat important □ Unimportant

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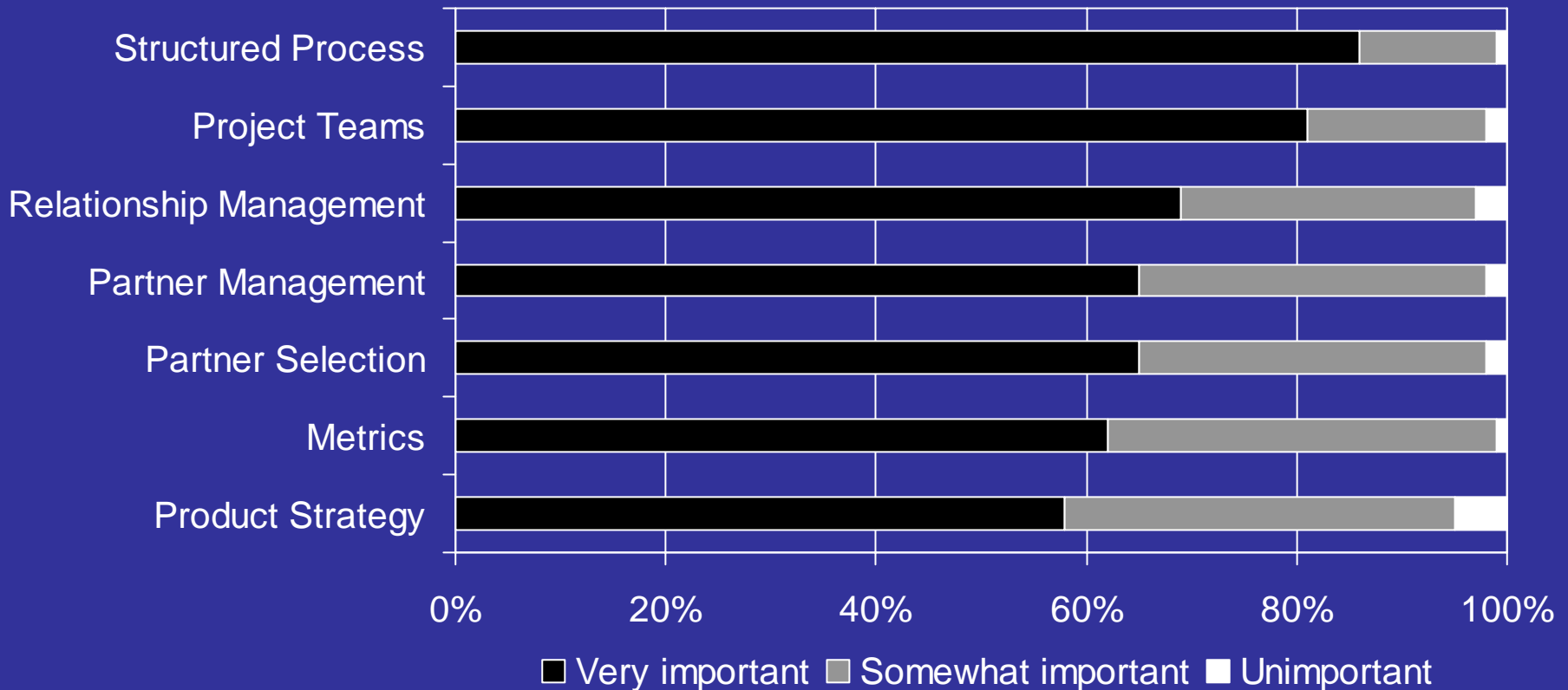
… but 20% or less of these practices are deployed systematically

Deployment of Co-Development Practices

Categories (x-axis 0% to 100%):

- Structured Process
- Project Teams
- Relationship Management
- Partner Management
- Partner Selection
- Metrics
- Product Strategy

Legend:
- ■ We do this systematically (formally, consistently)
- ■ We do this formally but not consistently
- ■ We do this informally
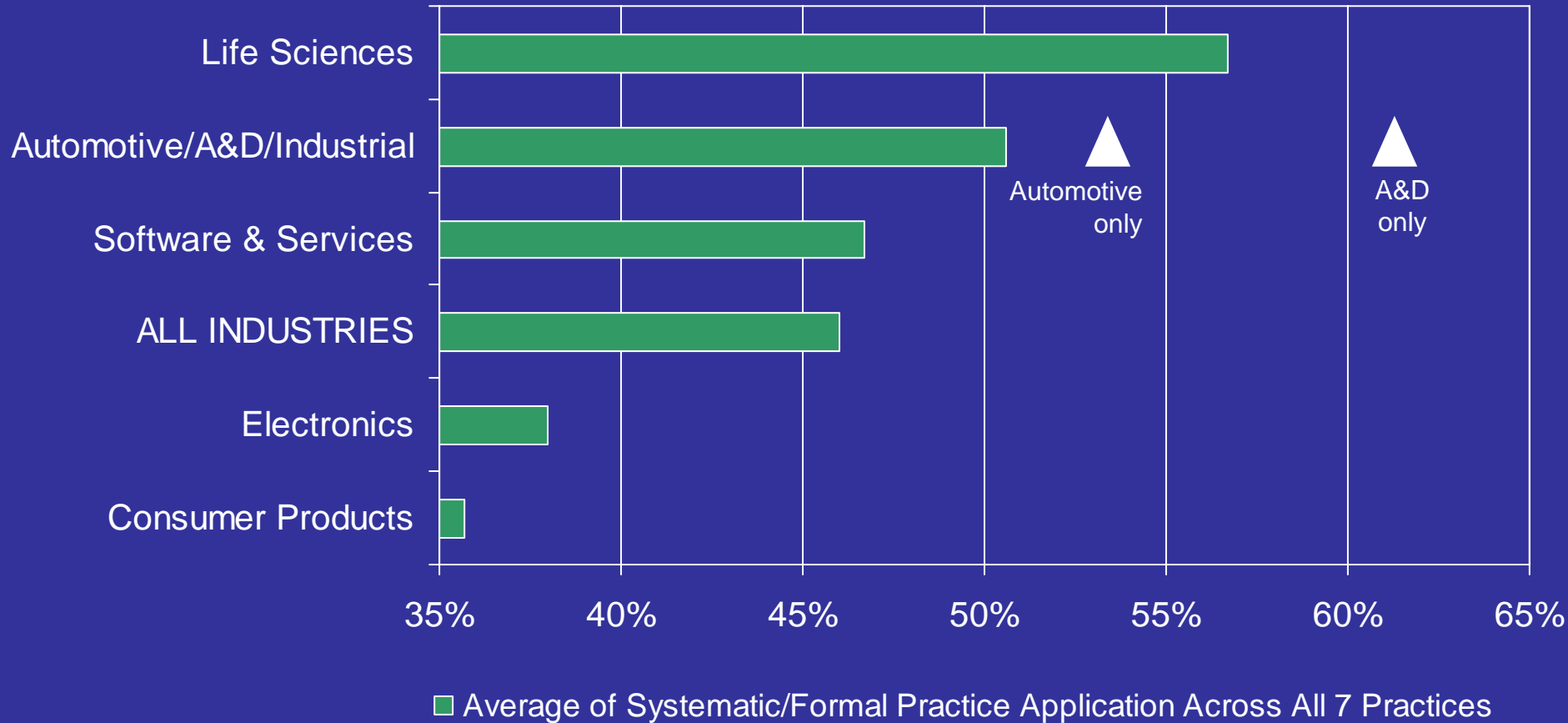- □ We don't do this at all

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Improvements in co-development satisfaction appear to be influenced by more disciplined application of key practices

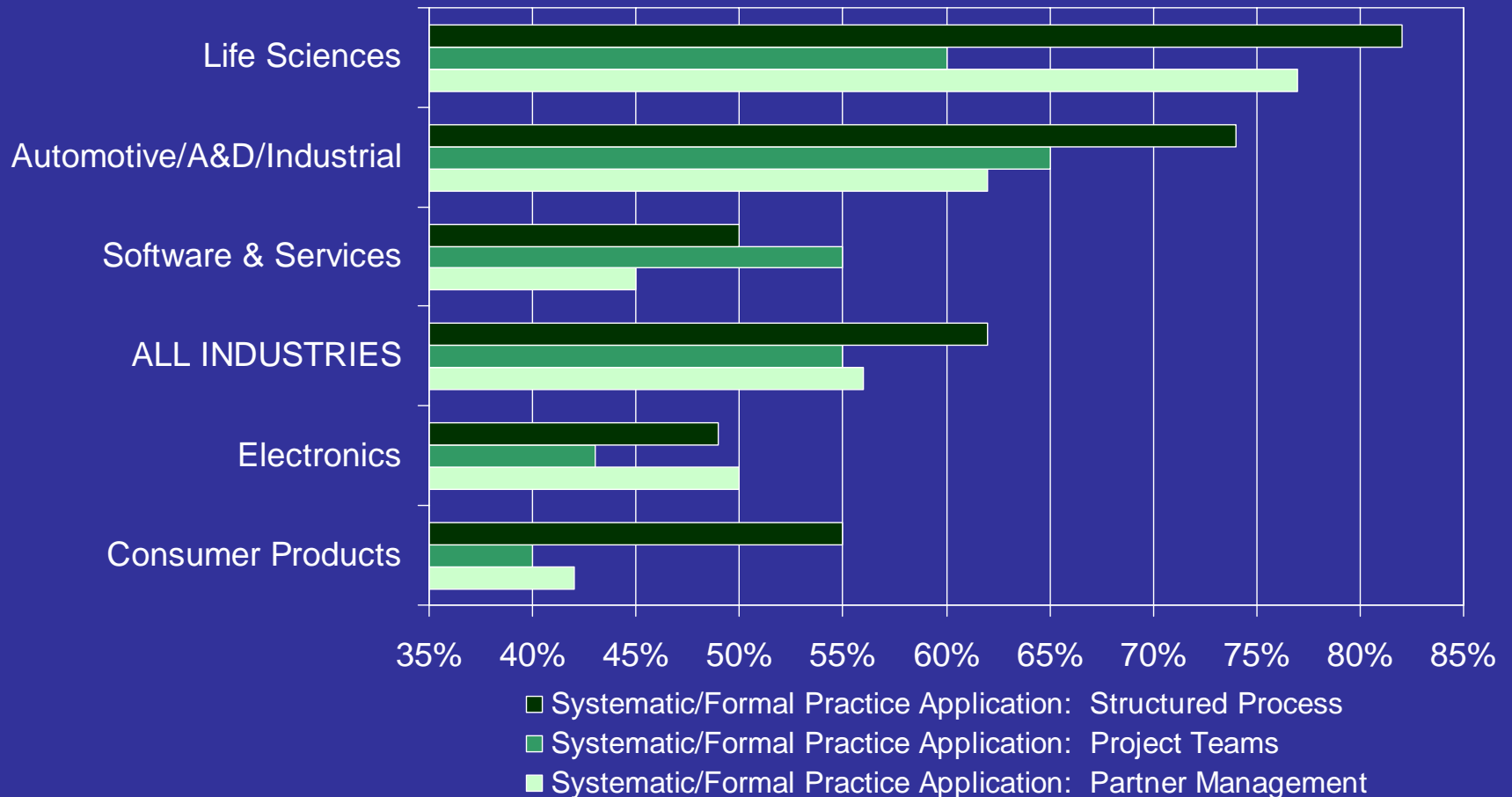## Deployment of Co-Development Practices: Longitudinal Comparison

The industry segments with more disciplined practices are also the ones citing superior time-to-market performance of co-development projects

Deployment of Co-Development Practices: Industry Comparison

Horizontal bar chart showing "Average of Systematic/Formal Practice Application Across All 7 Practices" by industry segment:

- Life Sciences: ~57%
- Automotive/A&D/Industrial: ~51% (Automotive only ▲ ~53%, A&D only ▲ ~61%)
- Software & Services: ~46%
- ALL INDUSTRIES: ~46%
- Electronics: ~38%
- Consumer Products: ~36%

X-axis: 35% 40% 45% 50% 55% 60% 65%

☐ Average of Systematic/Formal Practice Application Across All 7 Practices

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Industry differences are most pronounced with respect to structured process, project team, and partner management practices

## Deployment of Co-Development Practices: Industry Comparison

Legend:
- ■ Systematic/Formal Practice Application: Structured Process
- ■ Systematic/Formal Practice Application: Project Teams
- ■ Systematic/Formal Practice Application: Partner Management

Few companies are fully satisfied with current collaborative development tools

Satisfaction with Current Tools
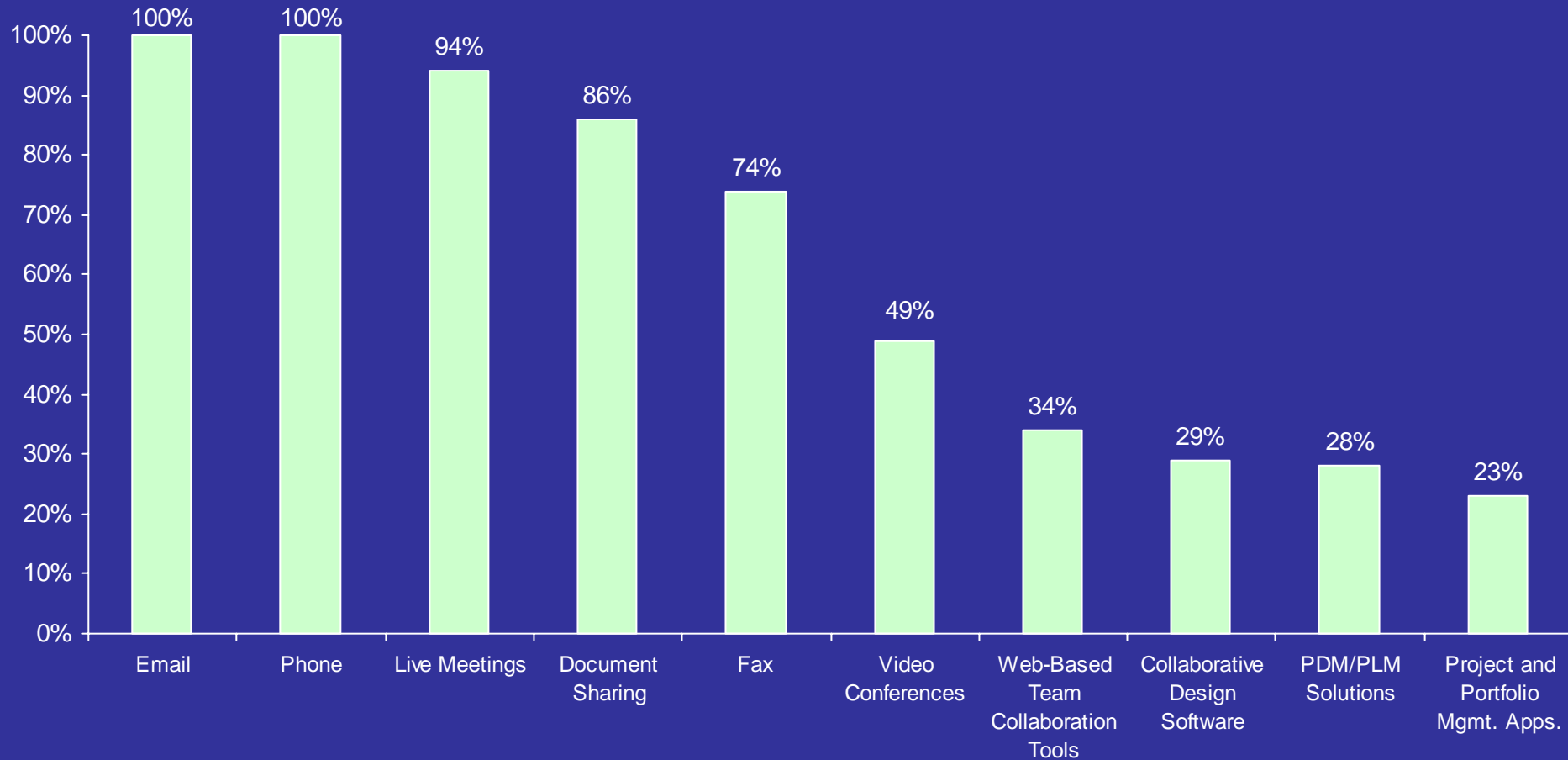

13%

34%

53%

- ■ Not Satisfied
- ■ Somewhat Satisfied
- ■ Fully Satisfied

16

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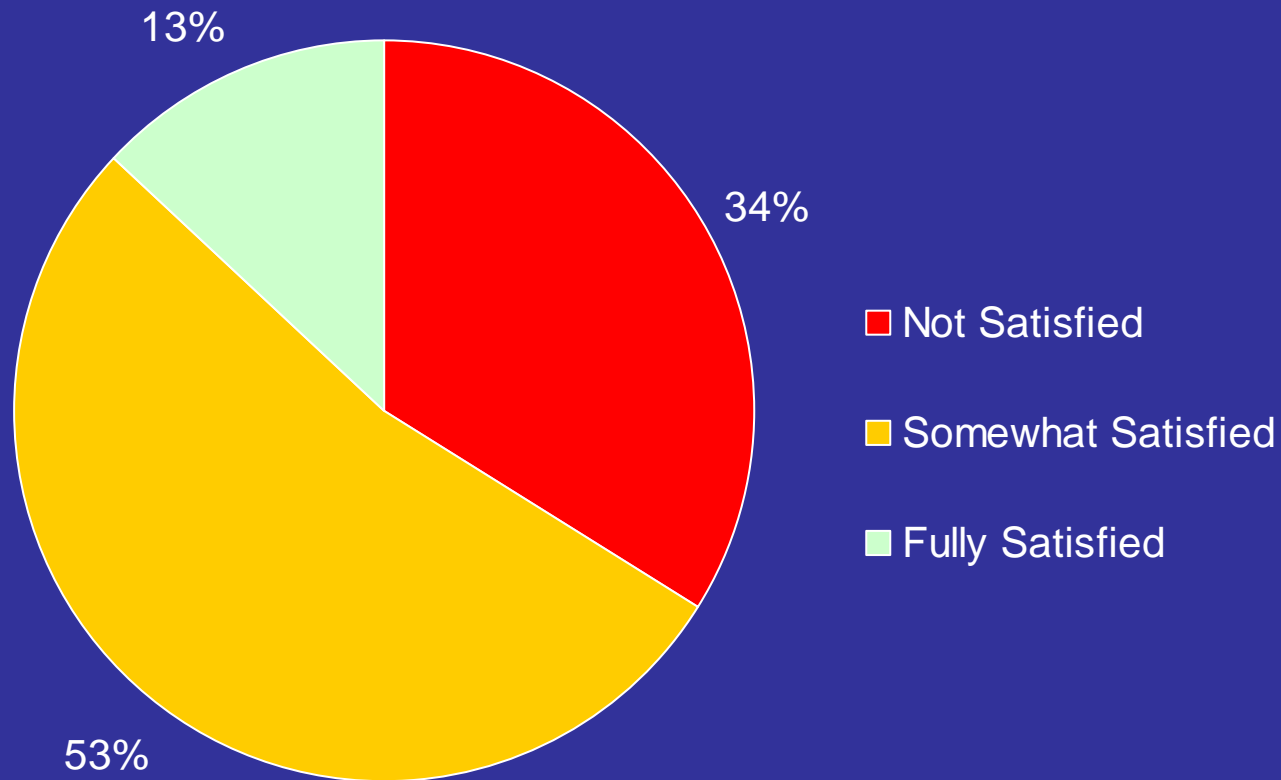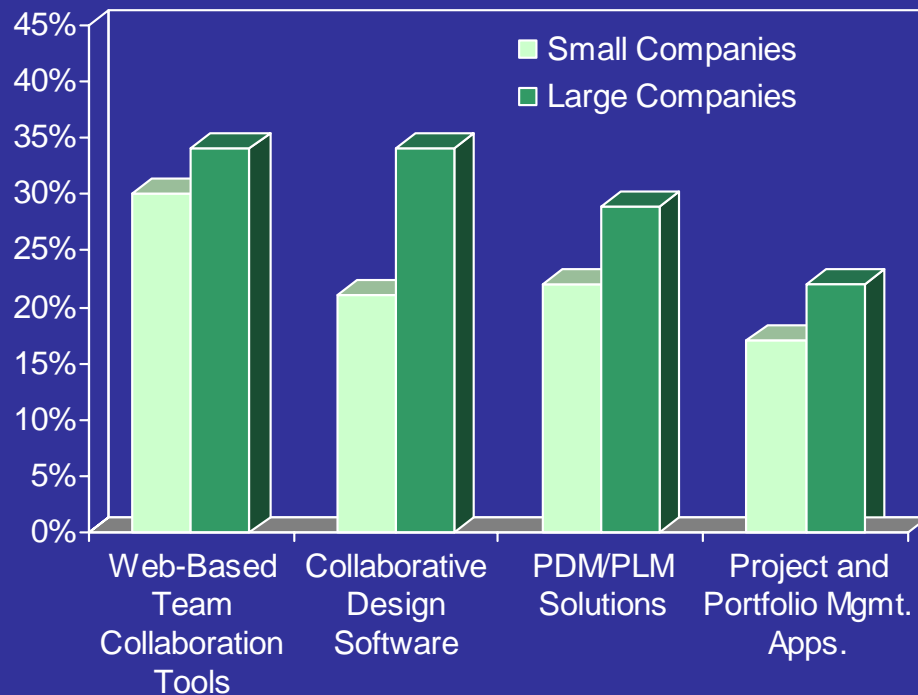
The tools actually used are still relatively basic
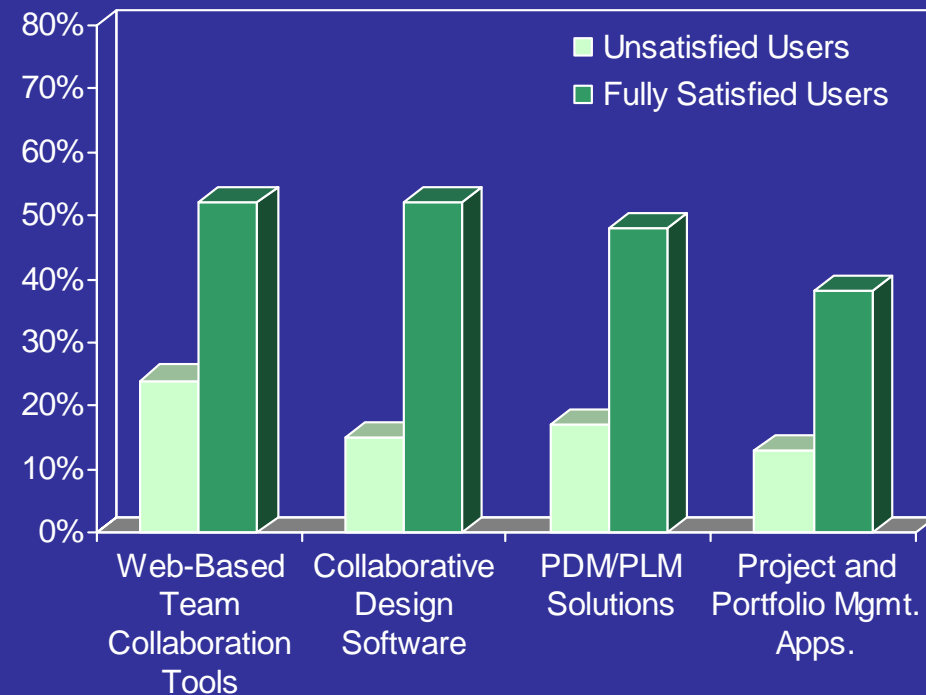
Collaborative Development Tool Usage

Large companies and companies satisfied with their I.T. tend to use more advanced tools

Advanced Collaborative Development Tool Usage

Small vs. Large Companies

Legend:
- ■ Small Companies
- ■ Large Companies

Categories: Web-Based Team Collaboration Tools, Collaborative Design Software, PDM/PLM Solutions, Project and Portfolio Mgmt. Apps.

Unsatisfied vs. Satisfied with Current Tools

Legend:
- ■ Unsatisfied Users
- ■ Fully Satisfied Users

Categories: Web-Based Team Collaboration Tools, Collaborative Design Software, PDM/PLM Solutions, Project and Portfolio Mgmt. Apps.

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Key takeaways

✓ **Co-development is on the upswing**

✓ **Companies are starting to pay more attention to the management practices required for success**

✓ **Nearly everyone sees substantial room for improvement**

✓ **There are no silver bullets—progress is needed on multiple fronts (strategy, processes, tools)**

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Survey participant list

- 3M
- 3M Pharmaceuticals
- AAL/LB
- ABB
- ACSYS Technologies
- ADTRAN
- Advese
- Aeroconseil
- Airforce VRS
- ALARIS Medical Systems
- Allegro MicroSystems
- Amalgamated Holdings
- AMDA Networks
- Appiant Technologies
- Appleton Papers
- Arrow Electronics
- Astrium
- Athersys
- Atoga Systems
- Avnet
- Ballard Power Systems
- Battelle
- BellSouth
- Beta Sphere
- Blue Pumpkin Software
- Boeing
- Boston Scientific Target

- BRANZ
- Brewer Science
- BRT Laboratories
- Bush Brothers and Company
- Cessna
- CIENA
- Clorox
- Coinstar
- Collins and Aikman
- Cooper Bussmann
- CTI
- CYRO Industries
- Dacor
- DaimlerChrysler
- DeForest Associates
- Delco Remy America
- Demantra
- DMC Stratex Networks
- Dow Corning
- Draeger
- D.S.D. Data Systems Designers
- Eastman Kodak
- EchoStar Technologies
- Eli Lilly
- EMBRAER
- EMC
- Exactech

- EXFO Electro-Optical Engineering
- Exostar
- First International Digital
- Flowserve
- Harley-Davidson
- Honeywell Consumer Products
- Gates Rubber
- General Motors
- Glenayre
- GMP Companies
- Harris
- Harris-MCD
- Hewlett-Packard
- Honeywell
- Honeywell Control Products
- In-Sink-Erator
- Infosys
- Instron
- Integrated Cargo Management Systems
- Intel
- International Truck and Engine
- Intersil
- Israel Aircraft Industry
- Ivex Packaging
- Jet Support Centre
- JetLab
- Johnson & Johnson LifeScan

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Survey participant list (continued)

- Kimberly-Clark
- Kodak Polychrome Graphics
- Kraft Foods
- Kulicke & Soffa
- Latitude Communications
- Lucent Technologies
- Madge Networks
- Mallinckrodt / Tyco Healthcare
- McDATA
- MED-EL GmbH
- Menasha Packaging
- Metaldyne
- Microsoft
- Mindspeed Technologies
- Motorola
- MSX International
- Multisorb Technologies
- National Semiconductor
- NeoRx
- New Product Innovations
- Nortel Networks
- Nvidia
- Officine Aeronavali Venezia
- OMNOVA
- Parametric Technologies
- Peak XV Networks
- Power Measurements

- Practical Automation
- Proctor & Gamble
- Progress Energy
- Public Mind
- Quest Diagnostics
- R/D Tech
- RCS Aviation
- RD Precision
- ReShape
- Roche Diagnostics - Diabetes Care
- S.C. Johnson
- Schneider Automation
- SCT/Campus Pipeline
- SEZ
- Shipley
- Shure
- SMTC Manufacturing
- Solectron
- Solvay Pharmaceuticals
- Sonic Innovations
- SOTRET
- Spirent Communications
- Springs Window Fashions
- Sprint
- SS8 Networks
- Star Trac
- Stryker

- Stuart Energy
- Sub-Zero Freezer
- Swagelok
- Swarovski North America
- Tecnomatix
- Tektronix
- Televoice
- Texas Instruments
- Texas Instruments European HPA
- Thermo King
- TIBCO Software
- Topmode Systems
- Trus Joist
- Ubiquity Technologies
- utstarcom
- ViaSat
- Virtua Group
- Volvo
- VTT
- Waer Systems
- Waterloo Industries
- Westinghouse Electric
- Whirlpool
- Worldwide Technical Services
- WR Grace
- Xerox

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