

# FEI – SPI (Survey, Probe and Intervention of Effective Practices)

## FEI - SPI Team

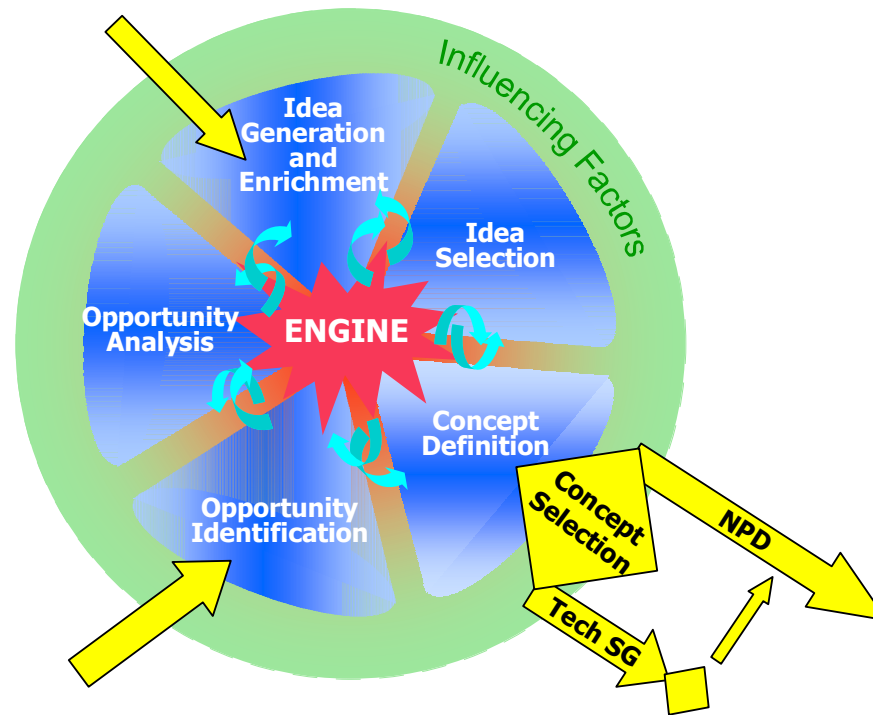
Heather Alderman (IRI)  
Christina Bramante (Cabot)  
Scott Boyce (Rohm and Haas)  
Robin Dvorak (IRI)  
Cindi Hartz (Dow Corning)  
Kathy Herald-Marlowe  
Michael Incorvia (International Flavors & Fragrances)  
Elko Kleinschmidt (McMaster University)  
Peter Koen (Stevens)  
Drew Kugler (WelchAllyn)  
Rita Pilate (J&J Consumer)  
Lorette Pruden (Inventive Strategies)  
Becky Seibert (Crompton)  
Jeff Stirrat (Ethicon)  
Brenda L.Tollett (The Valvoline Company)



Presented by  
Lorette Pruden, Ph.D  
AIChE Fall Meeting, 2004

August 1, 2004 overview

# NCD Model



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Research Institute

# Agenda



- **Project Goals**
- **Background**
- **Methodology**
- **Time Line**
- **Funding**
- **Next Steps**

# FEI SPI Project Goals



- **To discover and optimize effective practices in the FEI using the NCD model as the construct**
- **Develop an assessment tool and metrics companies can use to evaluate the FEI**
  - Similar to the ProBE questionnaire-based audit developed by Cooper et. al. for the NPD portion

# ProBE



[www.prod-dev.com](http://www.prod-dev.com)

## ProBE

- Compares an individual company's approach and results to the average business and against the top 20 percent performers
- Up to 16 key people of an organization evaluate the company's NPD approach and fill out the questionnaire.
- Over 100 characteristics of the company's product program and its performance are measured.
- Highlights the strength of the organization, pinpoints weaknesses, identifies areas of disagreements amongst the company evaluators
- Base to develop better approaches for the future.

# Background

## Results of these studies have lead to an understanding of best practices in NPD

- **Numerous Surveys on Best Practices in the NPD portion have been done (the classics!)**
  - Cooper, R.G. and Kleinschmidt, E.J. New products: What separates winners from losers? *Journal of Product Innovation Management*, 4(3):169-184 (1987)
  - Bacon, Glenn, Beckman, Sara, Mowery, David and Wilson, Edith. Managing product definition in high technology industries: a pilot study. *California Management Review*, Spring 1994:32-56 (1994)
  - Brown, Shona L. and Eisenhardt, Kathleen M. Product development: Past research, present findings, and future directions. *Academy of Management Review*, 20:343-378 (1995)
  - Song, X. Michael and Parry, Mark E. What Separates Japanese New Product Winners from Losers. *Journal of Product Innovation Management*, 13:422-439 (1996)

# Background



**Results of the studies proposed herein will lead to a fundamental understanding of the most effective practices used in the FEI**

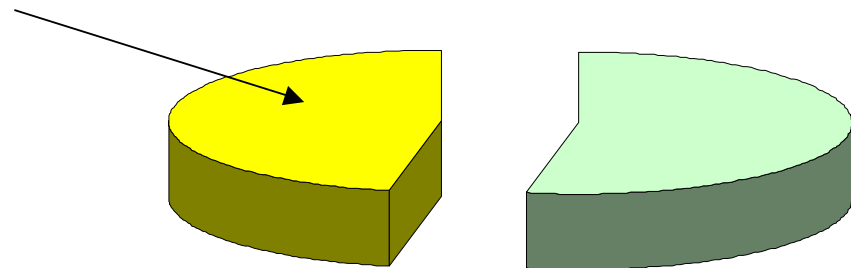
- **NO similar studies have been done in the FEI**

# Background

## Industry Focus

- **Focus on Chemical, Food and Beverage, Medical Devices and Petroleum Industry**
- **Why?**
  - Cannot compare FEI across all segments

**Total Industries in IRI (185)**



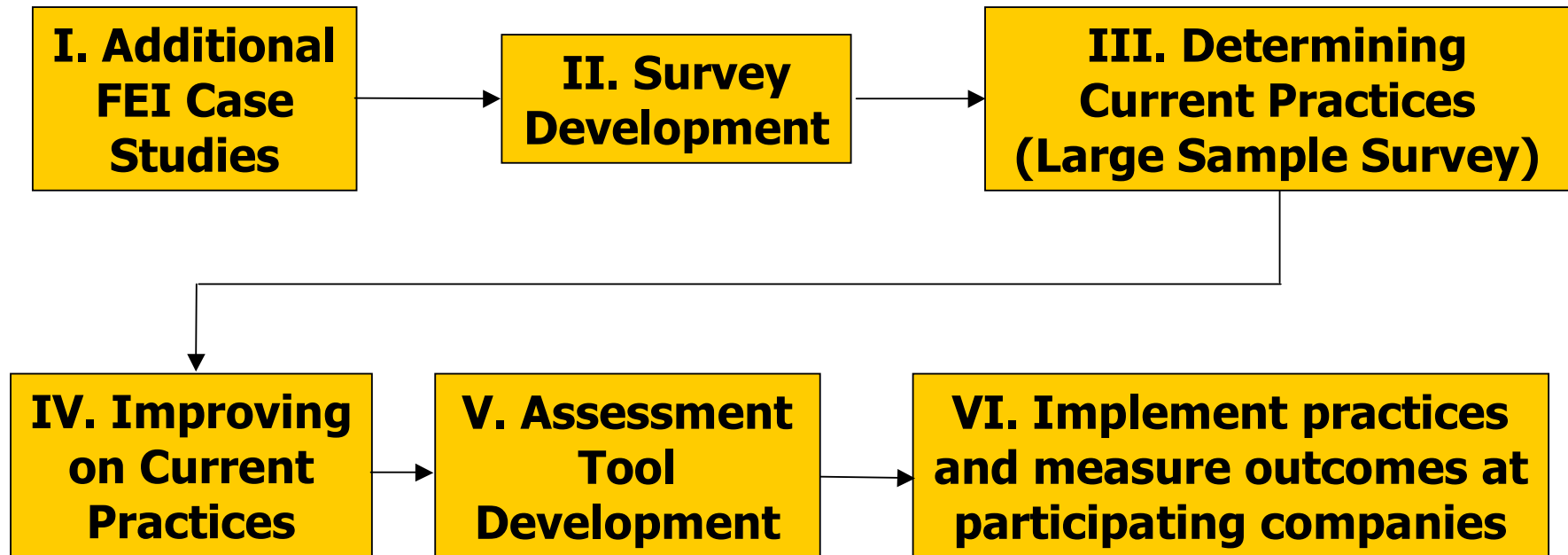


# Agenda



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- ✓ Background
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# Methodology



# Methodology



## I. Additional FEI Case Studies

- **Objective:**

- Understand key methodologies, practices and culture at 4-5 companies who were not part of the NCD effort

- **Purpose**

- To be as inclusive as possible

# Methodology



## II. Survey Development

- **Develop validated survey which includes outcome measures for the FEI and each of the elements**
- **Validate survey and outcomes with IRI companies and academics**

*Critical to identify outcome measures which can measure the effectiveness of the FEI and each of the elements*

**The survey effort will be of little value without effective outcome measures for the FEI**

# Methodology

## III. Determining Current Practices – Large Sample Survey

- **Administer Survey to at least 100 companies in the targeted segments**
  - To be filled out by at least 5 people in SBU:
    - Senior Management (“C” level)
    - R&D – director, CTO
    - Marketing Management Level
    - Plus two other – key stakeholders/knowledgeable involved in FEI: team project leader / team members

*Need to have multiple people from each SBU filling out survey*
- **Target a return greater than 80%**
- **Analyze the results**
- **Identify best practice companies**
  - Top 20% companies

# Methodology

## IV. Improving on Current Practices

### ■ **Activity:**

- Visit 10-12 "best" practice companies identified in the large sample survey and matched pair in the 50% octal

### ■ **Objective:**

- Go beyond the large sample survey to obtain concrete and specific examples of activities at "best" performers

### ■ **Outcome:**

- Understanding of new and optimum methodologies to be used in the FEI.

*This effort will allow us to go beyond the survey and better understand the actual practices and methodologies which have resulted in success*

# Methodology

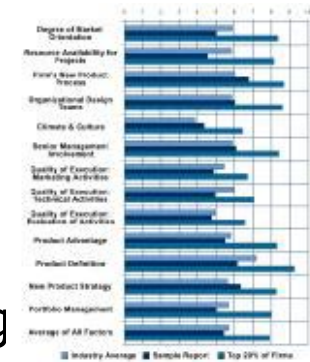
## V. Assessment Tool Development

### ■ Assessment Tool

- A questionnaire of FEI activities, practices, methodology and tools and problems determined from “20%” best performers

### ■ Objective of Tool

- Highlight companies strengths and weaknesses in the FEI



# Methodology

## VI. Implement practices and measure outcomes at participating companies

### ■ Objective

- Assess the impact of using the assessment tool at participating companies

### ■ Evaluate Results

- Evaluate the results and monitor how the companies correct the weakness and areas of deficiencies

### ■ Monitor

- Reapply the assessment tool and FEI outcome measures on a yearly basis



# Agenda



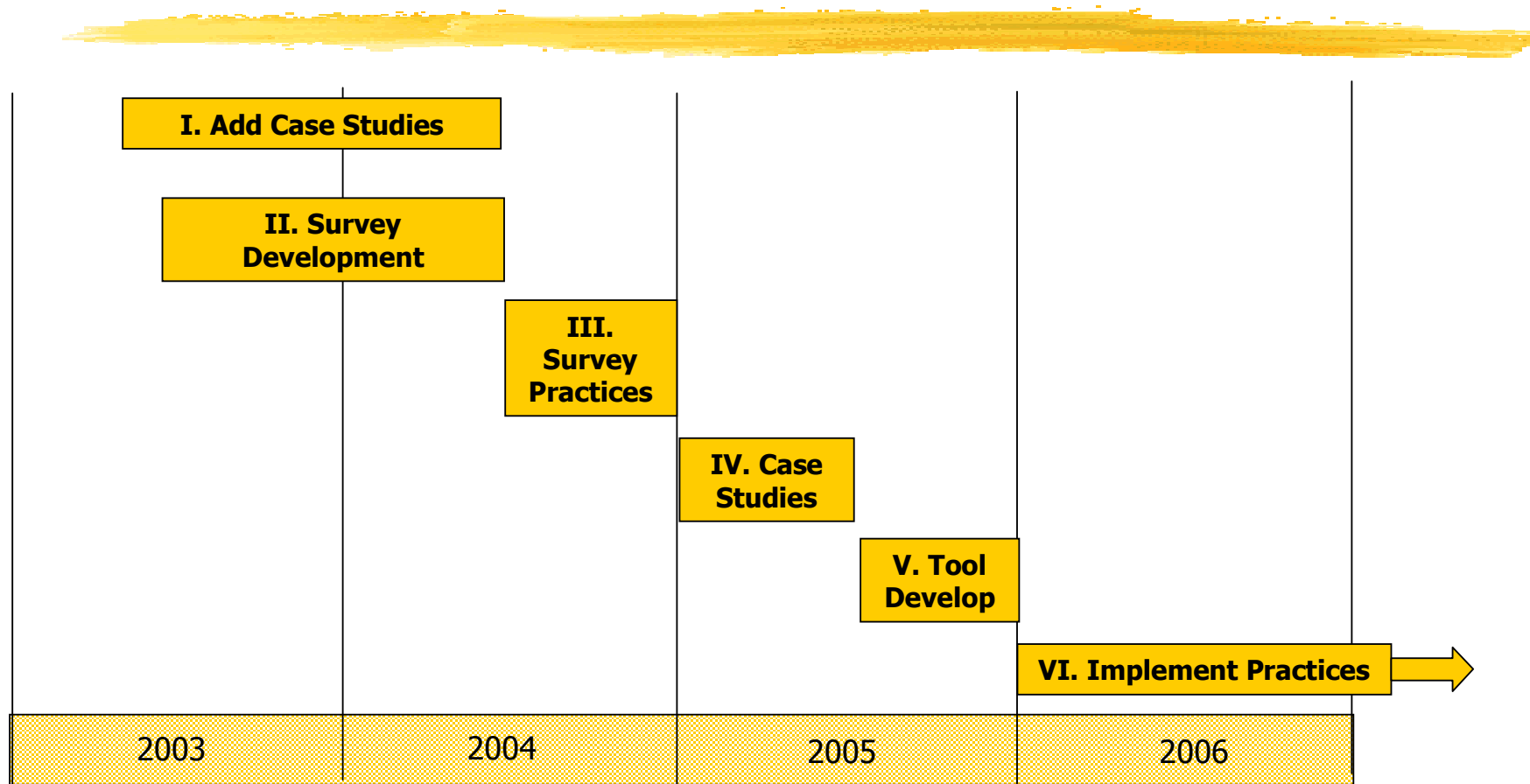
- ✓ Project Goals
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# Funding



- **Supported as one of the activities of Consortium for Corporate Entrepreneurship ([www.ceconsortium.org](http://www.ceconsortium.org))**
  - Ethicon, ExxonMobil, Honeywell and Kraft
- **NSF Grant**
  - Approved \$295,080 3 year grant
  - Co-Investigators: Elko Kleinschmidt, Academic Partners: Eric Von Hippel (MIT) and Dorothy Leonard (Harvard)
  - Industry Partners:
    - Cabot, Ethicon, ExxonMobil, Rich Products and LORD Corporation each committed \$15K (\$5K/year)

# Time Line



# Next Steps

## Survey

We appreciate the time you are taking to complete this questionnaire. All information will be kept confidential and your responses will not be provided to any individual company.

This study is being conducted to help us improve our services. The questionnaire is anonymous and will be used to help us improve our services independent of any individual company.

### I. Outcome Measures for ERM activities

Please use the following scale to answer questions 1 through 7.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

#### 1. Compliance Information

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We are satisfied that our disclosure of governance and risk information is comprehensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content of our reports is a good representation of all relevant risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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#### 2. Performance

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We are satisfied that our disclosure of financial strategy objectives of our ERM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our financial performance is clearly managed in accordance with our strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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#### 3. Financial

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Our ERM activities have a positive impact on our financial performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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#### 4. Effectiveness of the process

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The level of our engagement with stakeholders is sufficient to ensure that our risk management is effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We are a formal member of our Company's ERM program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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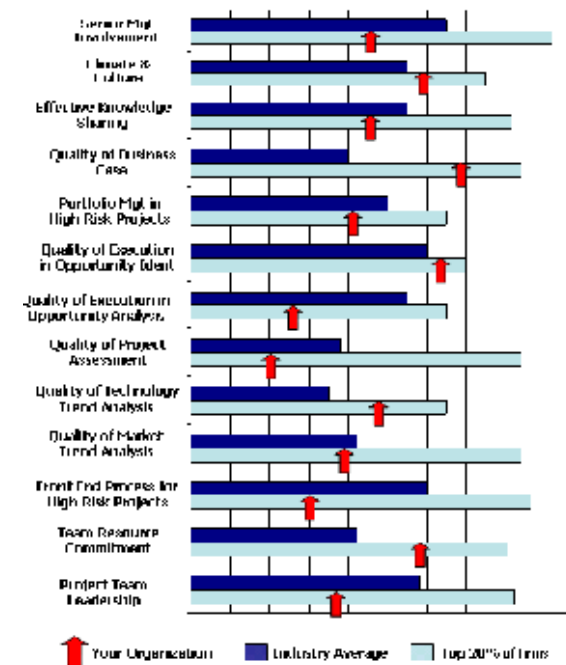
Can be downloaded from web site ([www.frontendinnovation.com/survey](http://www.frontendinnovation.com/survey))

# Next Steps

## Value Proposition

- **Within 2 weeks after receipt of 5 surveys**
  - Senior Management ("C" level); R&D – director, CTO; Marketing Management; Plus two other – key stakeholders/knowledgeable involved in FEI)

Compare your SBU results to average and top quartile on the web



# Next Steps

## Early Results

