

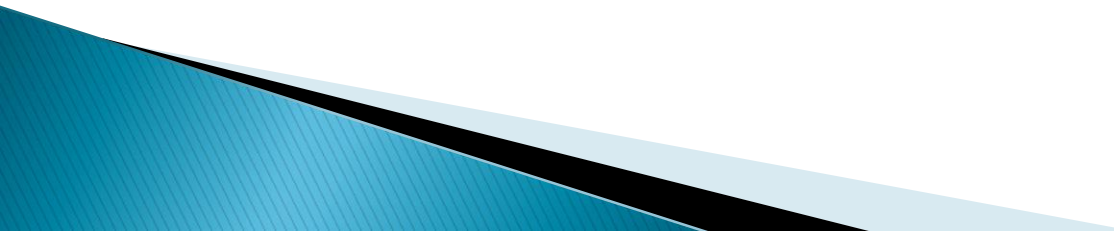
# Socioeconomic Impact Assessment of Chemicals Management: An Industry Perspective

William F. Carroll, Jr., Ph.D  
Indiana University  
Carroll Applied Science, LLC

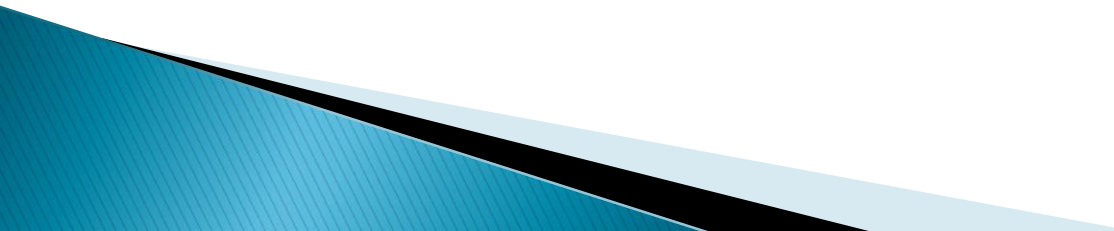
# Three Practices

- ▶ Scientific Method
  - ▶ Continuous Improvement
  - ▶ Strategic Planning, Goal-Setting and Metrics
- 

# Three Practices

- ▶ Scientific Method
    - Hypothesis, Experiment, Data Evaluation (Repeat)
  - ▶ Continuous Improvement
  - ▶ Strategic Planning, Goal-Setting and Metrics
- 

# Three Practices

- ▶ Scientific Method
    - Hypothesis, Experiment, Data Evaluation (Repeat)
  - ▶ Continuous Improvement
    - Responsible Care<sup>®</sup> Environmental, Health, Safety and Security (EHS&S) management system
    - Plan–Do–Check–Act (Repeat)
  - ▶ Strategic Planning, Goal–Setting and Metrics
- 

# Three Practices

- ▶ Scientific Method
  - Hypothesis, Experiment, Data Evaluation (Repeat)
- ▶ Continuous Improvement
  - Responsible Care® Environmental, Health, Safety and Security (EHS&S) management system
  - Plan-Do-Check-Act (Repeat)
- ▶ **Strategic Planning, Goal-Setting and Metrics**
  - SMART Goals
    - Specific, Measureable, Achievable, Relevant and Time-Bound
  - Milestones, Metrics to Match

# Performance Measurement Model



**What resources did we apply?**

- Money
- Staff
- Facilities
- Equipment

**What did we do?**

- Presentations
- Conferences
- Training
- Meetings
- Publications

**What did we produce?**

- # of presentations
- # of conferences
- # of participants

**What effects did we have?**

- New members
- New skills
- Different attitudes
- Modified behavior

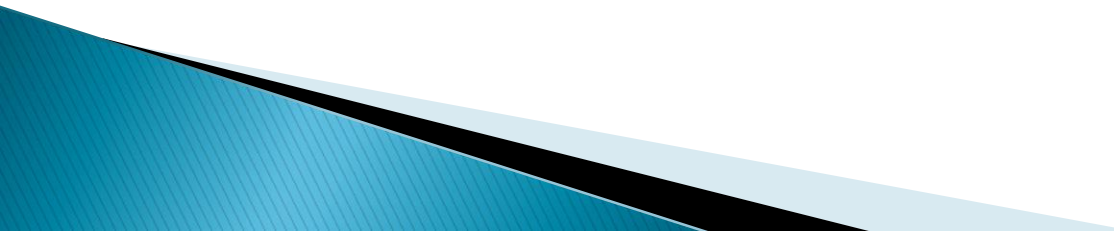
**What difference did it make?**

- Direct/indirect
- Negative
- Positive
- Procedural
- Intended
- Unintended

© ACS Leadership Development Systems

Adapted from: Hatry, H.P. *Performance measurement: Getting results* (2006)

# The Marketplace as Ecosystem

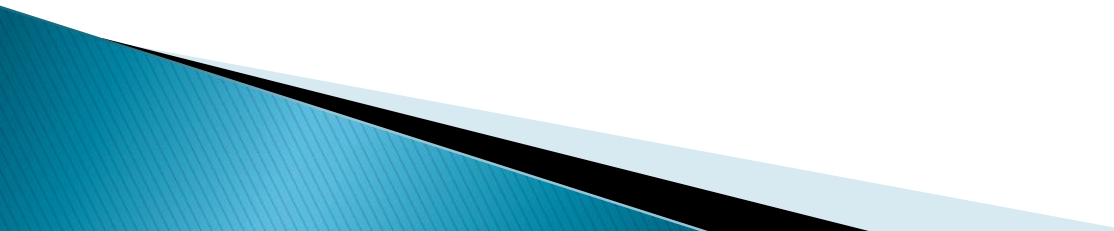
- ▶ Le Chatelier's Principle
  - ▶ Pharmaceutical Testing and Regulation
  - ▶ Engineering Principles and Execution
- 

# Mercatus Institute

- ▶ Involve Non–Agency Stakeholders
  - ▶ Choose the Right Scope
  - ▶ Focus on Outcomes *and* Outputs
- 



# Regulatory Studies Center, George Washington University

- ▶ Clearly Identify and Quantify Directional Goals
  - ▶ Plan Prospectively for Information Collection
  - ▶ Clear linkages between standards and outcomes
- 

# What Gets Measured, Gets Managed