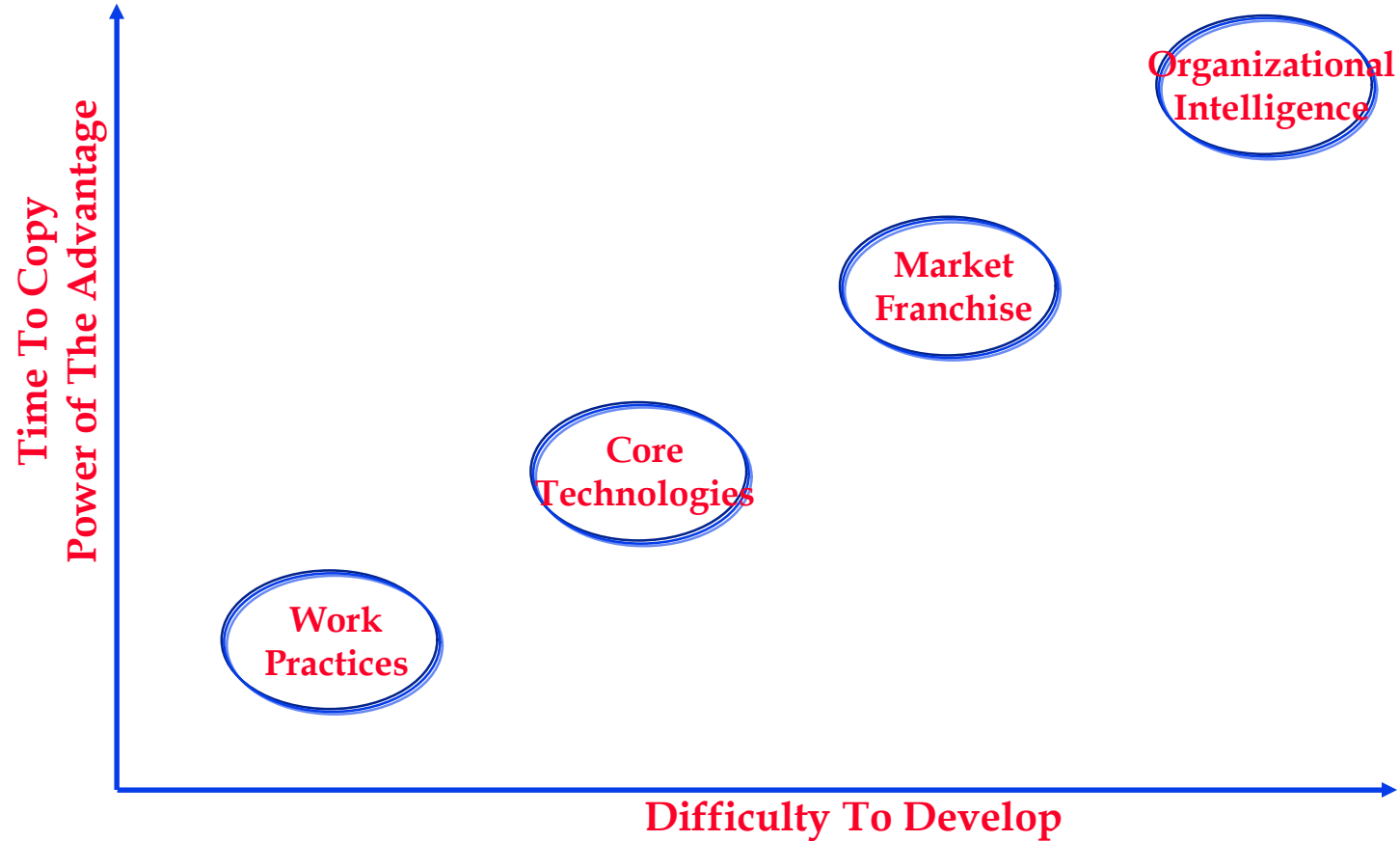


Organizational Aspects Impacting Adoption of Quality Decision Making

DAAG Meeting
April 1, 1998

SOURCES OF COMPETITIVE ADVANTAGE



What Is Organizational Intelligence?

- ◆ Effective and timely response to changes in the business environment
- ◆ Decisions made with high quality
- ◆ Rigorous implementation and results monitored against the plan

What Is Needed For Organizational Intelligence?

- ◆ Organization Motivation
(Degree to which the organization is motivated to increase its intelligence)
- ◆ Quality Decision Process
(Is there a process?)

Motivation To Make Good Decisions

- ◆ Part of Compensation Tied To Longer-Term Performance---i.e., 3 years
 - ◆ Provides incentive to make long-term, value-adding oriented decisions
- ◆ Cultural Support
 - ◆ There is an expectation there will be discipline and flow of thoughts needed for outstanding decision making and for disciplined implementation
- ◆ Individual Motivation
 - ◆ Do people visualize the business thriving long-term via growth and expanded industry influence

2 CLASSES OF ORGANIZATIONS

- ◆ Decision making is easily seen as critical to success and decisions are of the same type made over and over
 - ◆ Pharmaceutical
 - ◆ Upstream oil/ gas
 - ◆ Utilities
- ◆ Decision making competes with operational excellence as critical to success
 - ◆ Everybody else

Importance Of Decision Quality and Planning Is Not So Obvious In Some Organizations

- ◆ Which is more important - execution or direction?
 - ◆ Execution - effective and efficient implementation
 - ◆ Direction - selection of the best path to follow
 - ◆ In some organizations, there is a dilemma; in others, the choice is clear
- ◆ Examples of decisions

SIMPLE

COMPLEX

Make vs Buy
Litigate

R&D Project
Pilot Plant
Maintenance
Strategy

R&D Portfolio
Plant Siting
Facility Plan
Going Down Value Chain

Business Strategy
Expansion Plans
Financing Plans

SBU Strategy
Acquisition

DuPont

Chemicals & Specialties

1996 Sales \$24 billion

- Automotive Products
- Specialty Chemicals
- White Pigments
- Fluoroproducts
- Nylon
- Lycra
- Dacron Polyester
- Films
- Nonwovens (Tyvek/Sontara)
- Advanced Fiber Systems
(Kevlar/Nomex)
- Agricultural Products
- DuPont/Merck
- Packaging & Industrial Polymers
- Engineering Polymers
- DuPont/Dow Elastomers
- Photopolymer and Electronic Materials

Conoco

1996 Sales \$20 billion

- Upstream
- Downstream

Cultural Support Needed For Decision Making

- ◆ When decision making and quality thinking are equally important as operational excellence:
 - ◆ Operational excellence can receive more attention----more immediate results
 - ◆ Decision making therefore needs strong cultural support to receive needed priority

What Is Needed For Organizational Intelligence?

- ◆ **Organization Motivation**
(Degree to which the organization is motivated to increase its intelligence)

- ◆ **Quality Decision Process**
(Is there a process?)

What Is Needed

Companies Where Decision Making Is Key	Companies Where Operating Excellence and Decision Making Are Key
Leadership, Incentives, Cultural Support	Leadership, Incentives, Cultural Support
Tools	Tools

What Is Needed For Organizational Intelligence?



Some Approaches to Create The Cultural Support

- ◆ Bottom Up
- ◆ Champion
- ◆ Cognitive Repairs
- ◆ Root Causes

Bottom Up

- ◆ Does create a solid foundation within the organization
- ◆ But, SLOW
- ◆ Our approach past 8 years (C&S)

Champion

- ◆ Helpful, but not sufficient
- ◆ Champion can leave
- ◆ Thinking not ingrained into the culture

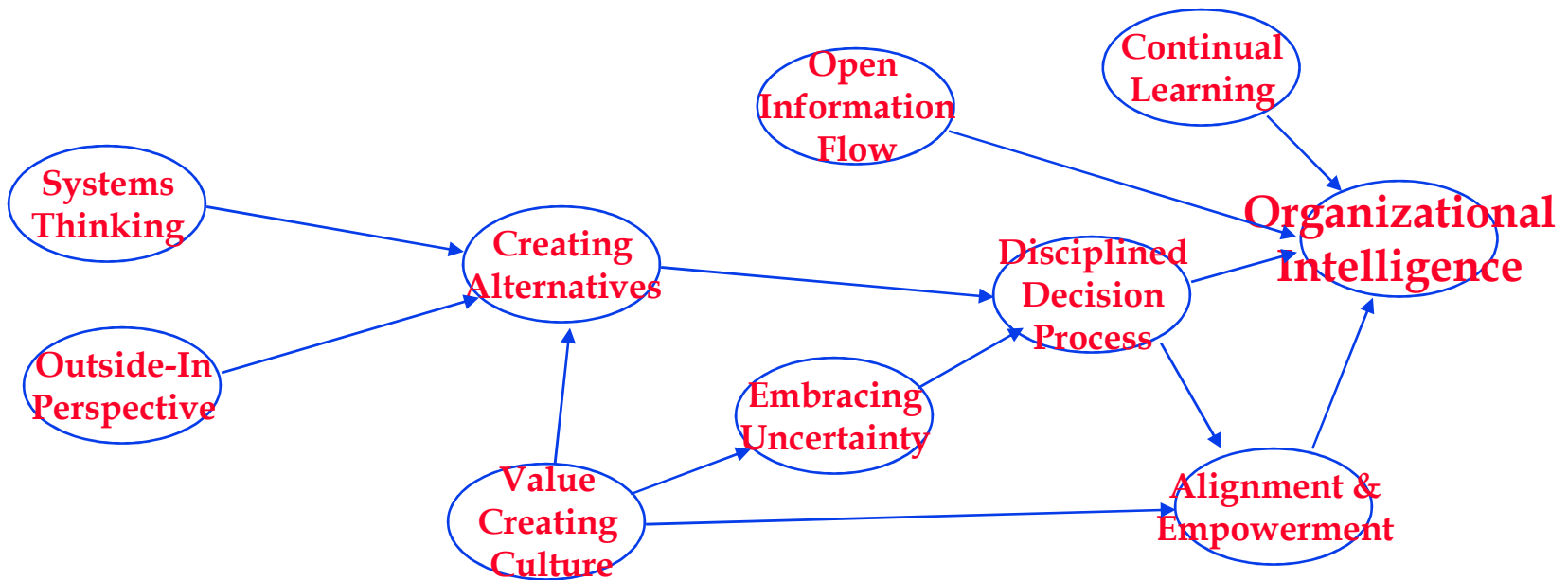
Cognitive Repairs

(from Draft paper by Heath, Larrick, and Klayman)

- ◆ Individuals do not make decisions effectively because they:
 - ◆ Generate hypothesis that are too narrow or shallow
 - ◆ Collect inadequate evidence and information
 - ◆ Draw inappropriate conclusions
- ◆ Organizations can repair these shortcomings with processes and procedures that avoid the need for top management direct involvement
- ◆ Examples:
 - ◆ Offer decision quality certification service
 - ◆ Quality decision courses to business teams versus individuals
 - ◆ Coach decision makers to ask appropriate questions

Root Causes

- ◆ “The Smart Organization*” presented 9 cultural elements needed if an organization is to be highly intelligent
- ◆ Get these right and organizational intelligence will follow
- ◆ Top management can focus on areas where need is greatest



*The Smart Organization, Mathieson and Mathieson, Harvard Business School Press

Summary

- ◆ More is needed than decision analysis tools to develop widespread quality decision making and an intelligent organization
- ◆ Addressing the underlying cultural features needed for an intelligent organization may be the best way to achieve the best result

Appendix

AVAILABLE REPAIRS HAVE TRADEOFFS

SIMPLE VS. COMPLEX

- Simple - easy to use
- Complex - more accurate

SOCIAL VS INDIVIDUAL

- Social - social competition can aid the spread of the repairs
- Individual - people less likely to accept repairs on themselves

DOMAIN SPECIFIC VS DOMAIN GENERAL

- Specific - easier to recognize as relevant
 - easier to apply
- General - more likely to spread across domains
 - better if domain is in state of flux or change

TOP-DOWN VS BOTTOM-UP

- Top-Down - viewed with suspicion and hostility
 - implies management things team doing badly
 - centralized control if fixed procedures to be used
 - perceived as driven by fashion
- Bottom-Up - simpler
 - more domain specific
 - more familiar, acceptable

CORRECTIVE VS PREVENTATIVE

- Corrective - applied after the process
 - best when people accept the need
- Preventative - needed when people are strongly biased

FAMILIAR VS NOVEL

- Familiar - less costly to use
 - benefits more apparent
- Novel
 - more likely to create enthusiasm
 - less subject to distortion or short-cutting

MOST LIKELY TO SUCCEED

Simple
Socially Administered

Domain Specific
Bottom-Up

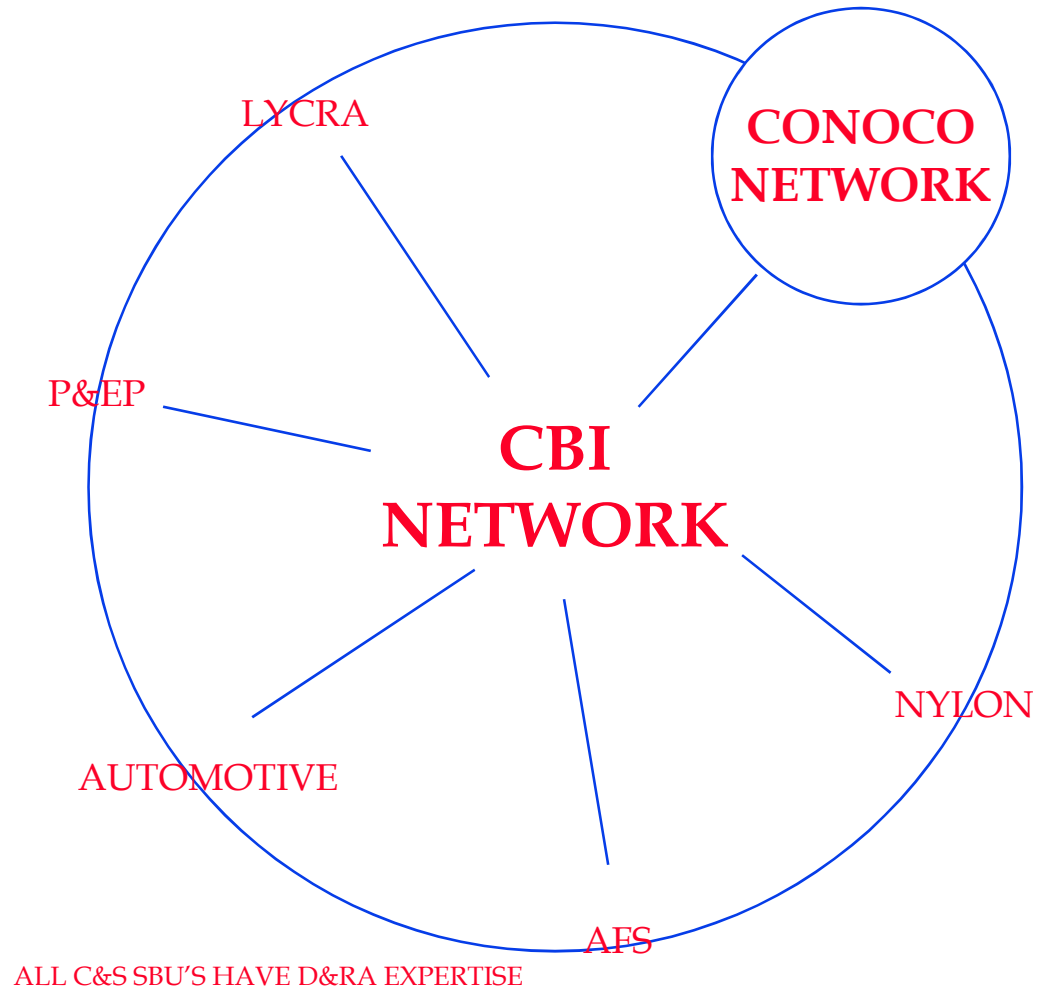
Requirements For Cultural Support

1. Value Creation Culture - Tradition and politics take a back seat
 - People collaborate to create value
 - Disagreements resolved in favor of value
2. Creating Alternatives - Creativity and new ideas are welcomed
 - Decision require multiple and creative alternatives
 - Decision makers know what ideas were rejected
3. Continual Learning - The organization learns continually what creates value
 - Change is viewed as routine, energizing, and profitable
 - Organizational myths are challenged
4. Embracing Uncertainty - Uncertainty is articulated as a range and viewed as wisdom
 - Incentives reward decisions, not a specific outcome
 - Forecasts never turned into commitments
5. Outside-In Strategic Perspective - Outside information actively sought and used for decisions
 - People understand the big picture and its implications on strategy
6. Systems Thinking - Decision makers expect people to understand full implications of proposals
 - Models and sensitivity analyses used to support business decisions
 - Multiple perspectives routinely available on all problems

Requirements For Cultural Support

- 7. Open Information Flow
information
 - Information is routinely captured, shared, and applied
 - People feel safe in sharing and even feel obliged to share
 - Information is used in surprising ways to create value
- 8. Alignment and Empowerment - Strategic decisions made through a participative process
 - People understand their individual roles and those of others
 - People are empowered and trusted to pursue value creation
- 9. Disciplined Decision Making - A quality decision process is used in every important decision
quality
used
 - Management is involved in the process and responsible for decision
 - The process is tailored to the problem, but the principles are always

Organization of D&RA in DuPont



Core Group In CBI

- Consulting 85%
- Teaching 5%
- Network 5%
- Marketing D&RA 5%