

# Knocking Down Siloes in the Digital Enterprise While Adopting New Technologies

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**CIMdata is the leading independent global strategic management consulting and research authority focused exclusively on PLM and the digital transformation it enables.**

**We are dedicated to maximizing our clients' ability to design, deliver, and support innovative products and services through the application of PLM.**

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- Market news
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- PLM Certificate Programs
- Executive seminars
- Technology seminars
- Educational webinars
- Int'l conferences & workshops
- Best practices training...



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- Strategy & vision
- Needs assessment
- Solution evaluation
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- Program management
- Market planning...

*Delivering strategic advice and counsel through a comprehensive, integrated set of research, education, and consulting services*

# Key Takeaways

## *Knocking Down Siloes in the Digital Enterprise While Adopting New Technologies*

- End-to-end data and process connectivity is required by those who wish to be digital enterprises
- A systems mind set goes a long way to help an organization understand what needs to be done
- Organizational change management is a key requirement, but it can be difficult
- The implementation of complex tools, processes, and digital data doesn't make change any easier
- Organizational change requires time and effort
- The keys to success is a multi-variable equation

# Agenda

- Introduction: Breaking Down the Siloes
- Getting People to Care
- Understanding Resistance
- Some Structures for Change
- Keys to Success
- Concluding Remarks

# Basic PLM Premise

*When building and communicating your PLM strategy, you must remember...*

*PLM is at the core of your company—it cuts across all the enterprise's departments and often includes development partners, suppliers, and customers.*

*To be successful, you must change the organization.*



*Product data touches all phases of a product's life—the organization must understand and support this*



# Houston, We Have a Problem

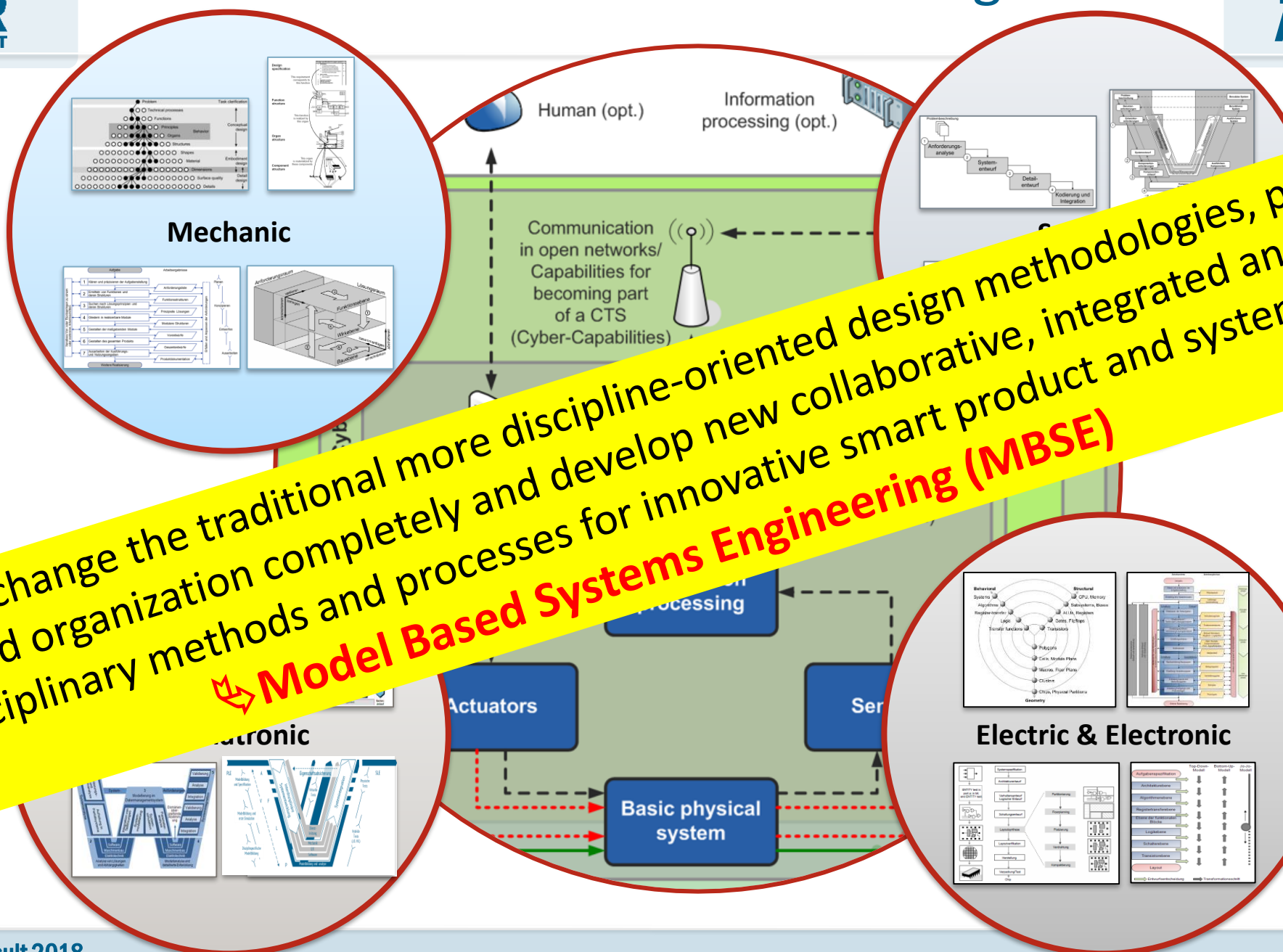
*What we want, is not what we have*

**However...**





- Andreasen & Hein (1987)
- French (1990)
- VDI 2221 (1993)
- Ponn & Lindemann (2011)



**Model Based Systems Engineering (MBSE)**

## Electric & Electronic

- Gajski and Kuhn (1983)
- VDI/VDE (1993)
- Lienig (2006)
- Rauscher (1996)

# Systems Engineering

<http://www.incose.org/practice/whatissystemseng.aspx>

- An interdisciplinary approach and means to enable the realization of successful systems
  - It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem:
    - Operations
    - Cost & Schedule
    - Performance
    - Training & Support
    - Test
    - Disposal
    - Manufacturing
  - It integrates all the disciplines and specialty groups into a team effort forming a structured development process that proceeds from concept to production to operation
  - It considers both the business and the technical needs of all customers with the goal of providing a quality product that meets the user needs

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# Isn't Not Going to be Easy

*Work is required to change how individuals and organizations function*

**NO PAIN,**



**NO GAIN!**

*Change WILL be resisted, even if the people want the change!*



# The Starting Point of Change

*The most critical question that must be answered...*



## **Why should I care?**

# Getting People to Care I

*It begins and ends with education*

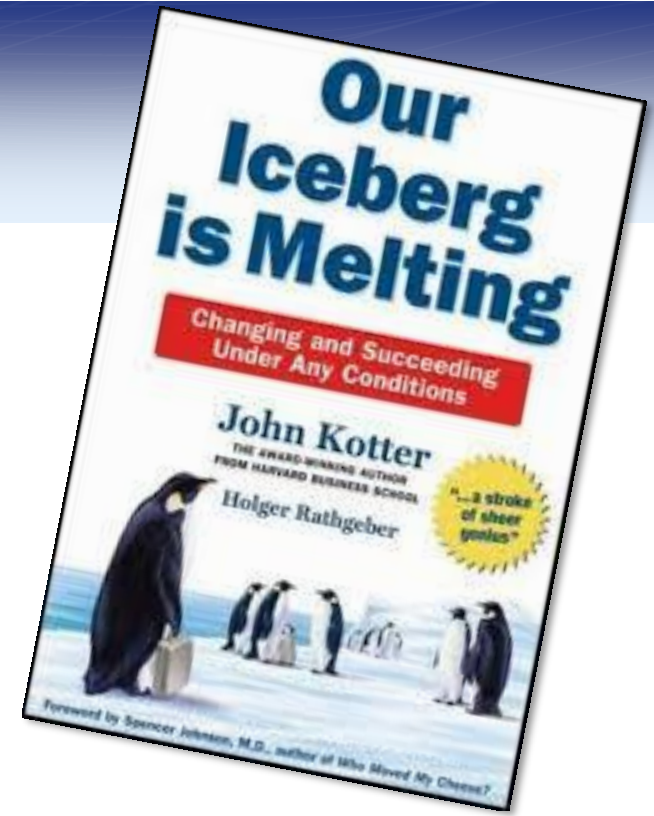
- Educate and communicate
- Listen to the users
- Get people involved
- Change plans if appropriate
- Symbolic gestures by sponsor
- Educate and train



# Getting People to Care II

*Is Your Iceberg Melting? John Kotter and Holger Rathgeber*

*On the surface, Our Iceberg Is Melting is a simple story of a colony of penguins facing a dilemma. But contained within the story and the characters is a powerful message about the fear of change and how to motivate people to face the future and take action.*



"Our Iceberg is Melting," John Kotter and Holger Rathgeber, St. Martin's Press, New York, 2005

# The Eight Step Process of Successful Change

*“Our Iceberg Is Melting”...the eight steps*

1. Create a sense of urgency
2. Pull together the guiding team
3. Develop the change vision and strategy
4. Communication for understanding and buy in
5. Empower others to act
6. Produce short-term wins
7. Don't let up
8. Create a new culture

“Our Iceberg is Melting,” John Kotter and Holger Rathgeber, St. Martin's Press, New York, 2005

# Make it Stick

*"Our Iceberg Is Melting"*

- Create a new culture
  - Hold on to the new ways of behaving, and make sure they succeed, until they become strong enough to replace old traditions

*Hold on to those things that will  
continue to make you successful and  
get rid of those things that will not...*

# Is Your Iceberg Melting?

*Questions a company needs to ask...*

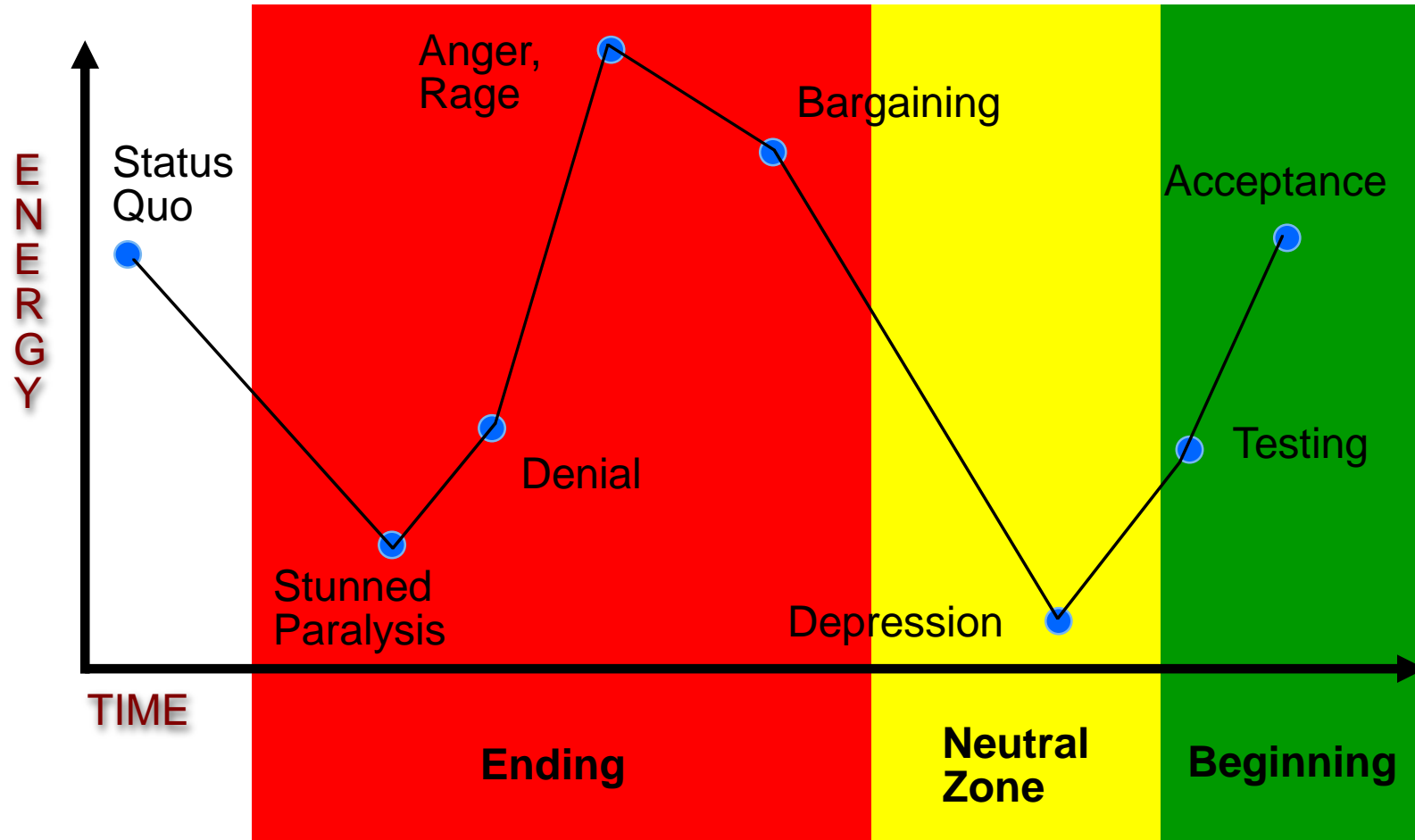


- What is your iceberg? Is it melting? Are there fissures?
- What fissures do you see?
- Are there any Freds or Alices willing to step up?
- Does your organization have enough scouts?
- Are the NoNos controlling the organization?
- Are you most concerned with success in catching fish today or planning for what may come tomorrow?
- Do you have a visible example of the case for change – your bottle?
- Is there a clear and simple message about the future and what it may look like that is understood by all?
- Is anyone willing to swim ahead?



# Organizational Change is a Process

*Quickly overcoming this is critical to success*

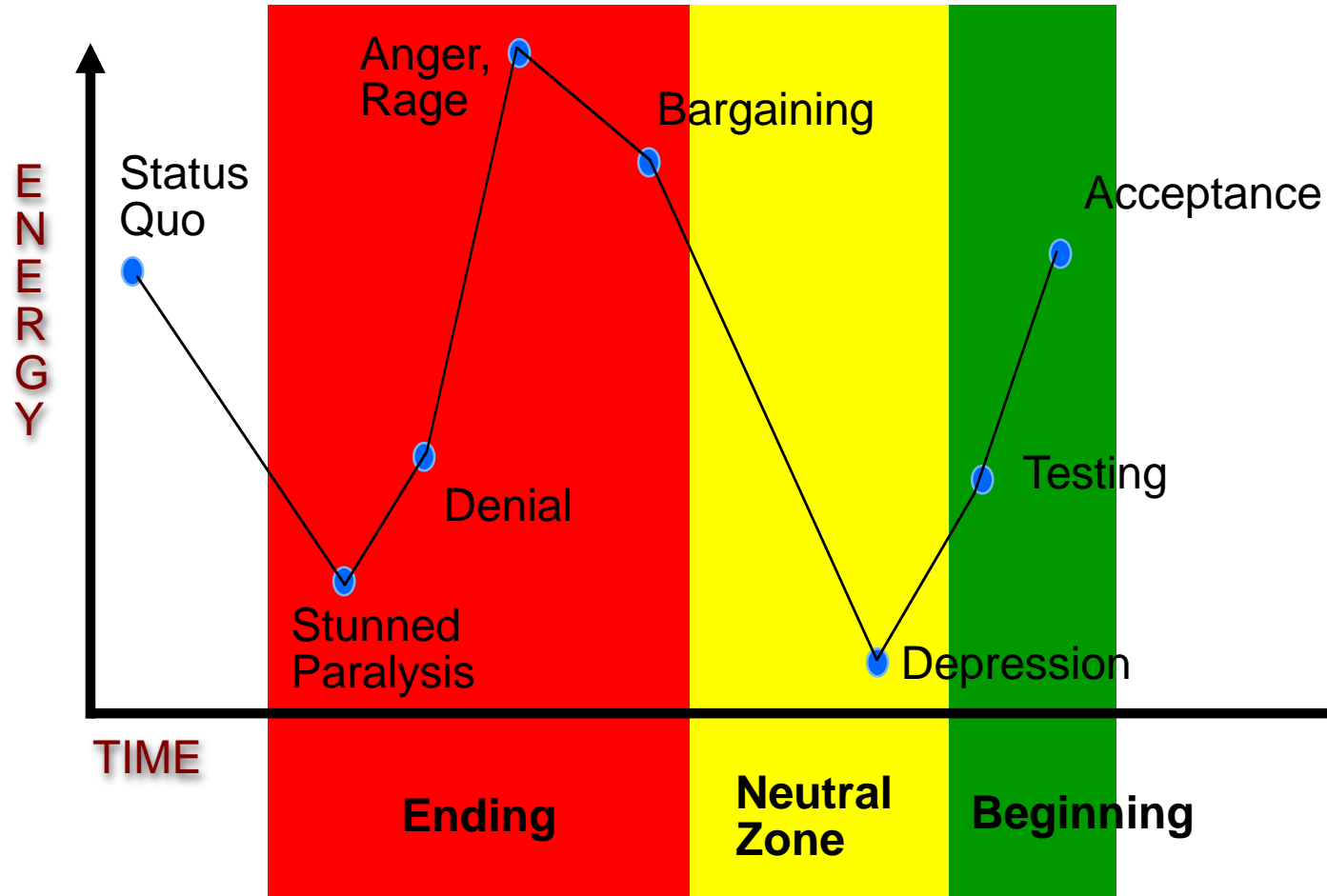


Adapted from: Kübler-Ross, Elisabeth. "On Death and Dying". Touchstone. NY. 1969.

And: Bridges, William. Surviving Corporate Transition: Rational Management in a World of Mergers, Layoffs, Start-Ups, Takeovers, Divestitures, Deregulations, and New Technologies. Doubleday. NY. 1988.

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# It's All About Gaining Acceptance

*You can never educate and communicate often enough*

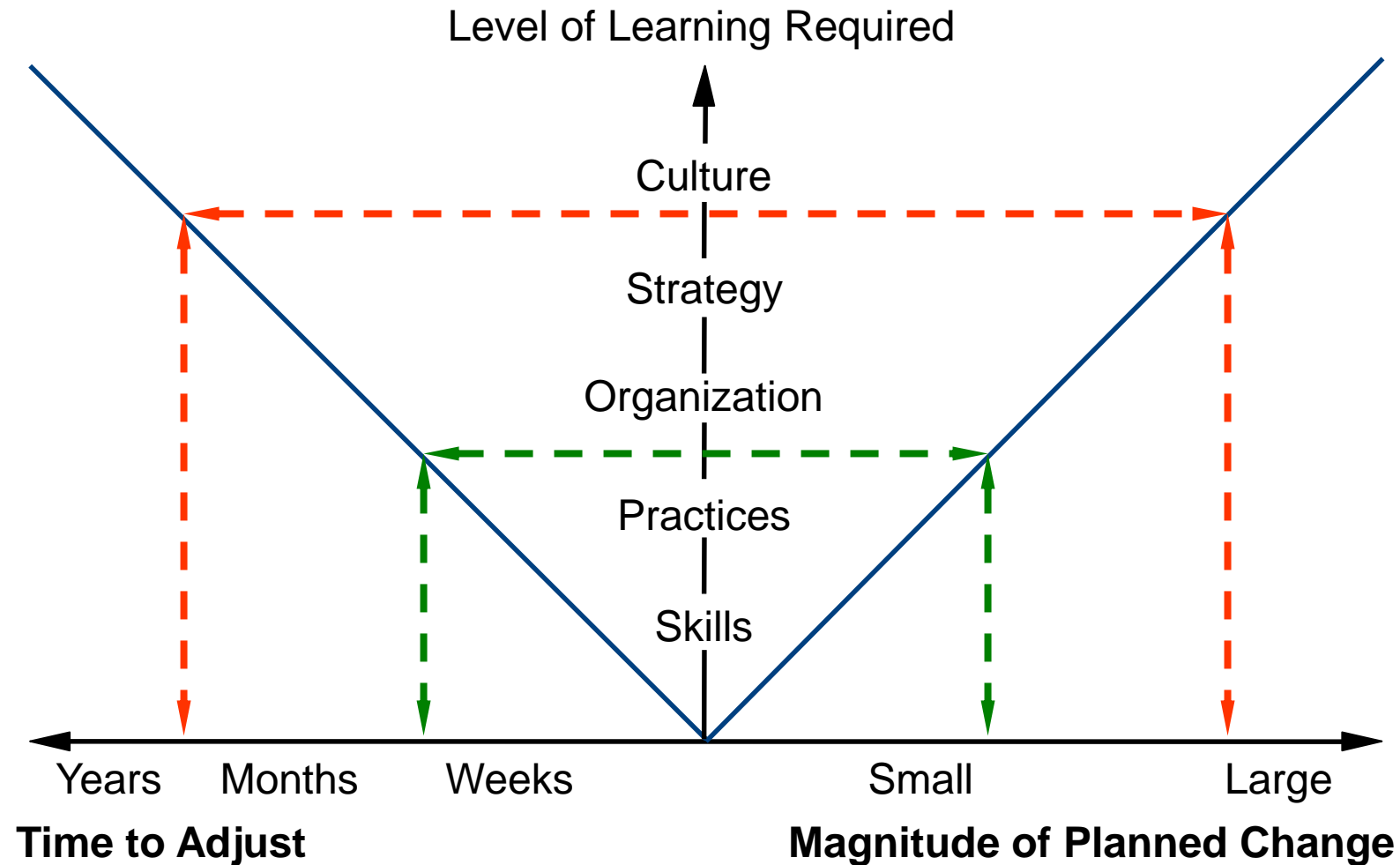
- Explain the objectives and the rationale
- Emphasize the cost of not changing
- Focus on external drivers (not your fault)
- Describe why you personally believe in the change
- Be specific about what will and won't change for each target group
- Talk to people from their frame of reference

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# People Resist Change

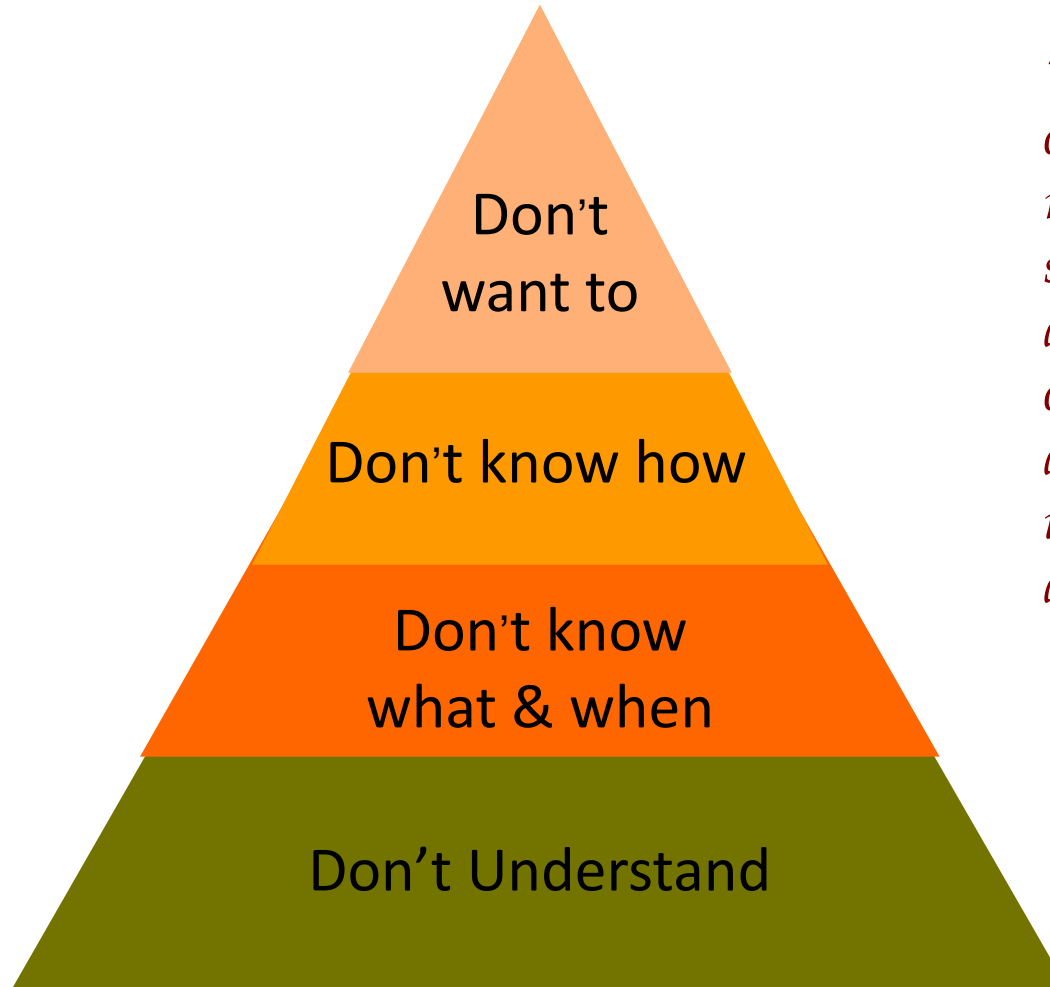
*Why change is so difficult—it takes time (and money)!*



Adler, Paul S. and Aaron J. Shenhar. *Adapting Your Technological Base: The Organizational Challenge*. Sloan Management Review, Vol. 32, No. 1, pp. 25-37, 1990.

# Understanding Resistance

*What you need to know*



*“Resistance to change is used too often as an excuse for failure rather than a motive force for success...It is the ignorance about the underlying nature of our reluctance and what to do about it, and not the reluctance itself, that kills change in people and organizations.”*

*Douglas K. Smith,  
Taking Charge of Change*



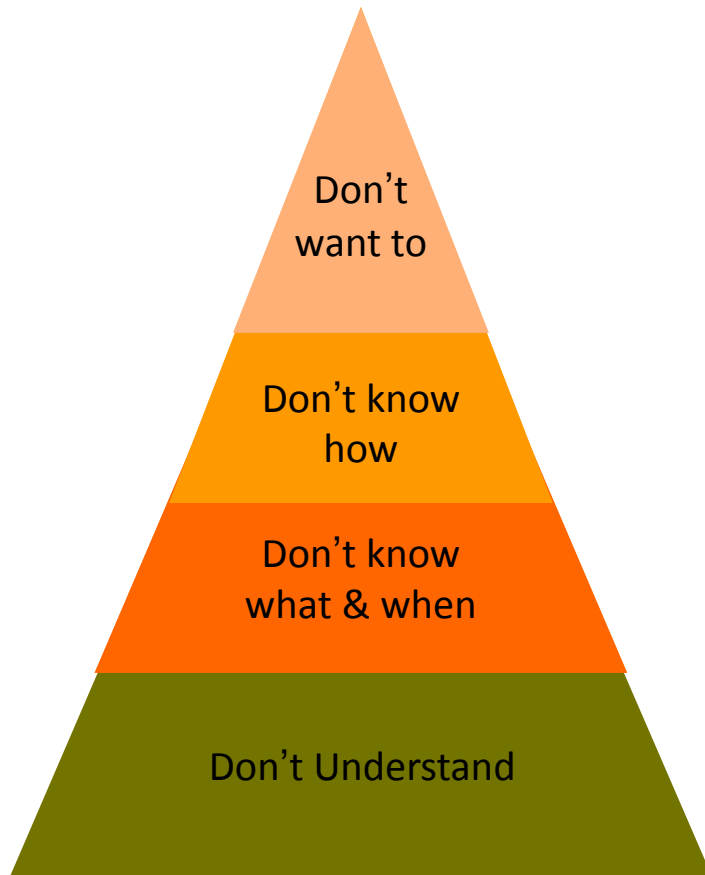
# Dealing with “Resistance”

*A systematic approach must evolve over time*

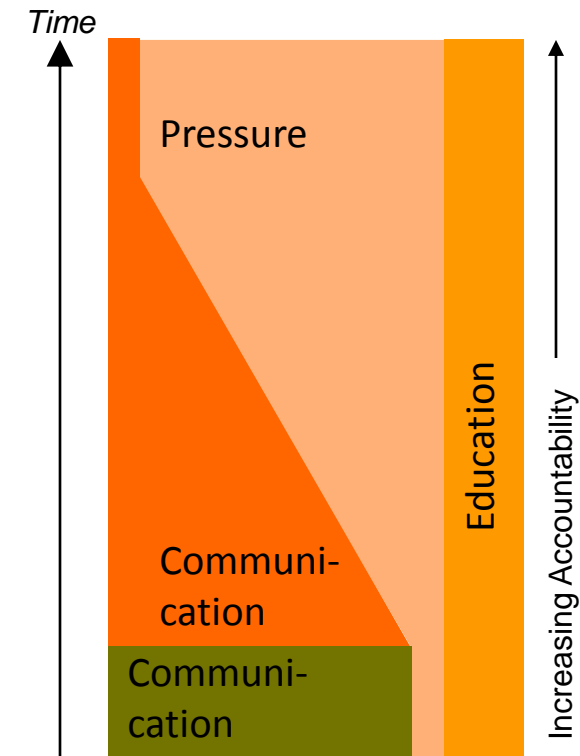
1. Identify Resistance Type

2. Implement Appropriate Action

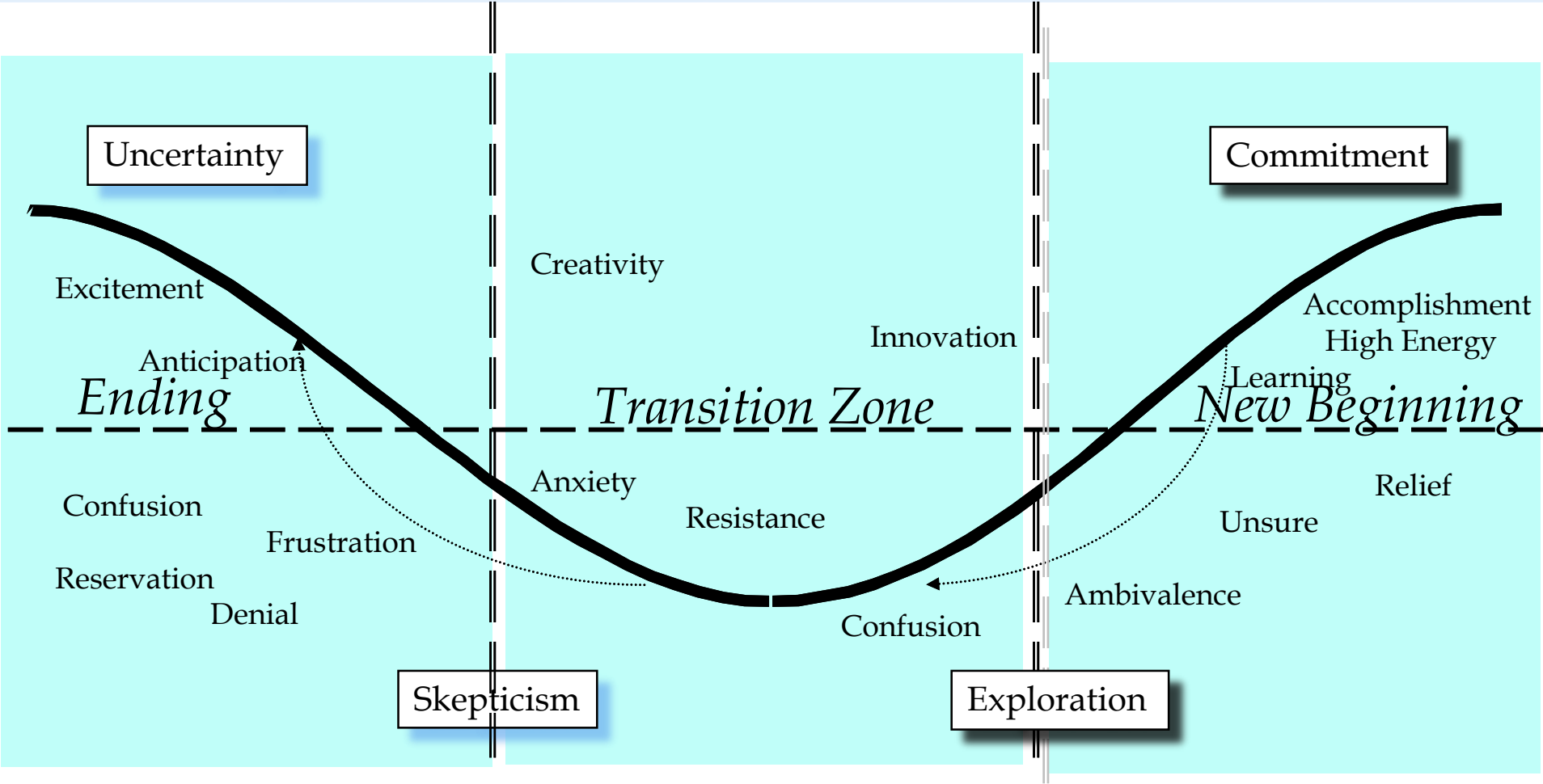
3. Consider Timing



Directives  
Reward structures  
Human Resources Policies  
Coaching & Feedback  
  
Competency modelling  
Role Definitions  
Coaching & Training  
  
Communication - understanding  
Audience Impact Analysis  
Involvement  
  
Communication - awareness  
Information

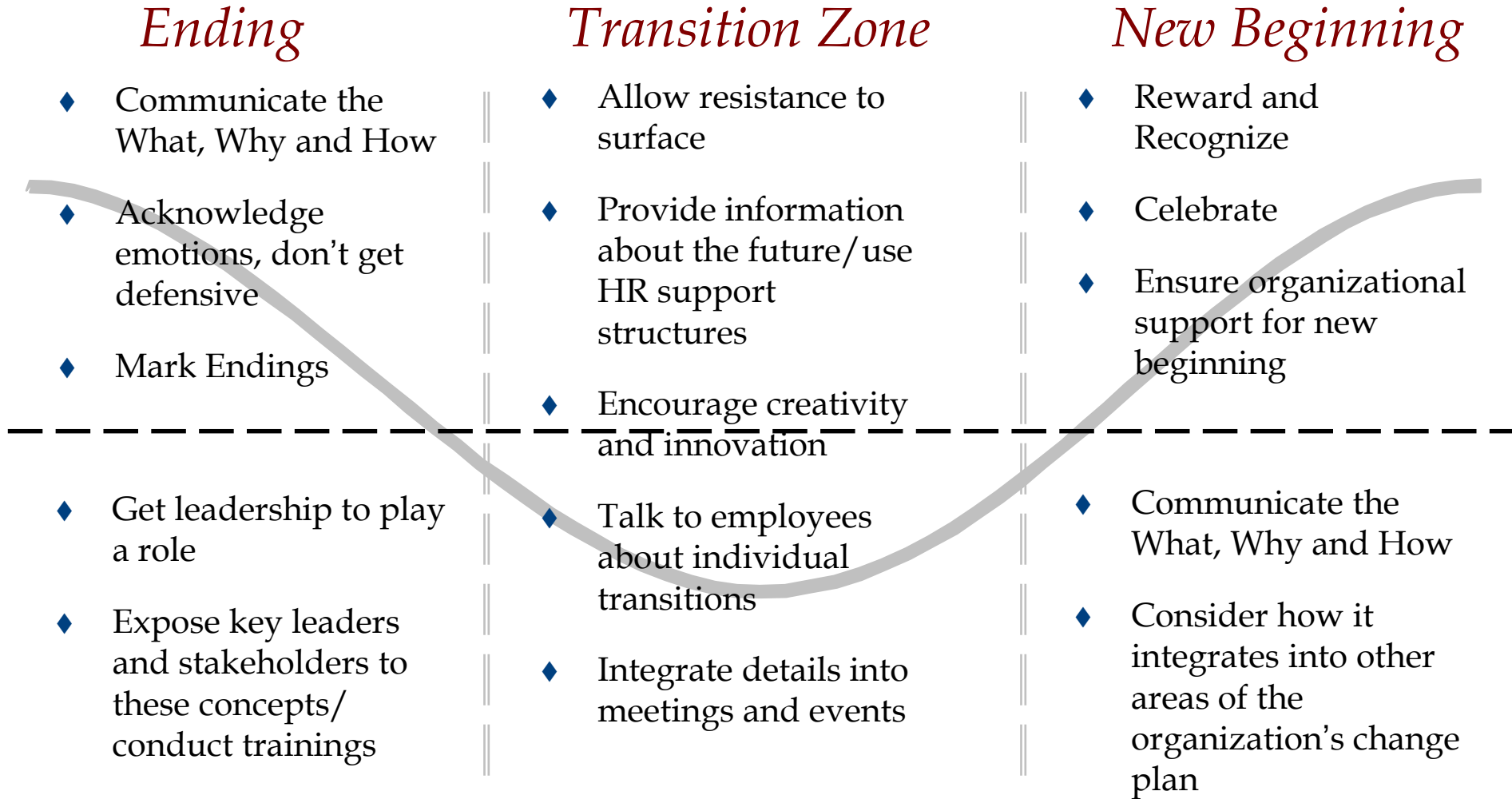


# Managing Change



Adapted from *Managing Transitions*, William Bridges

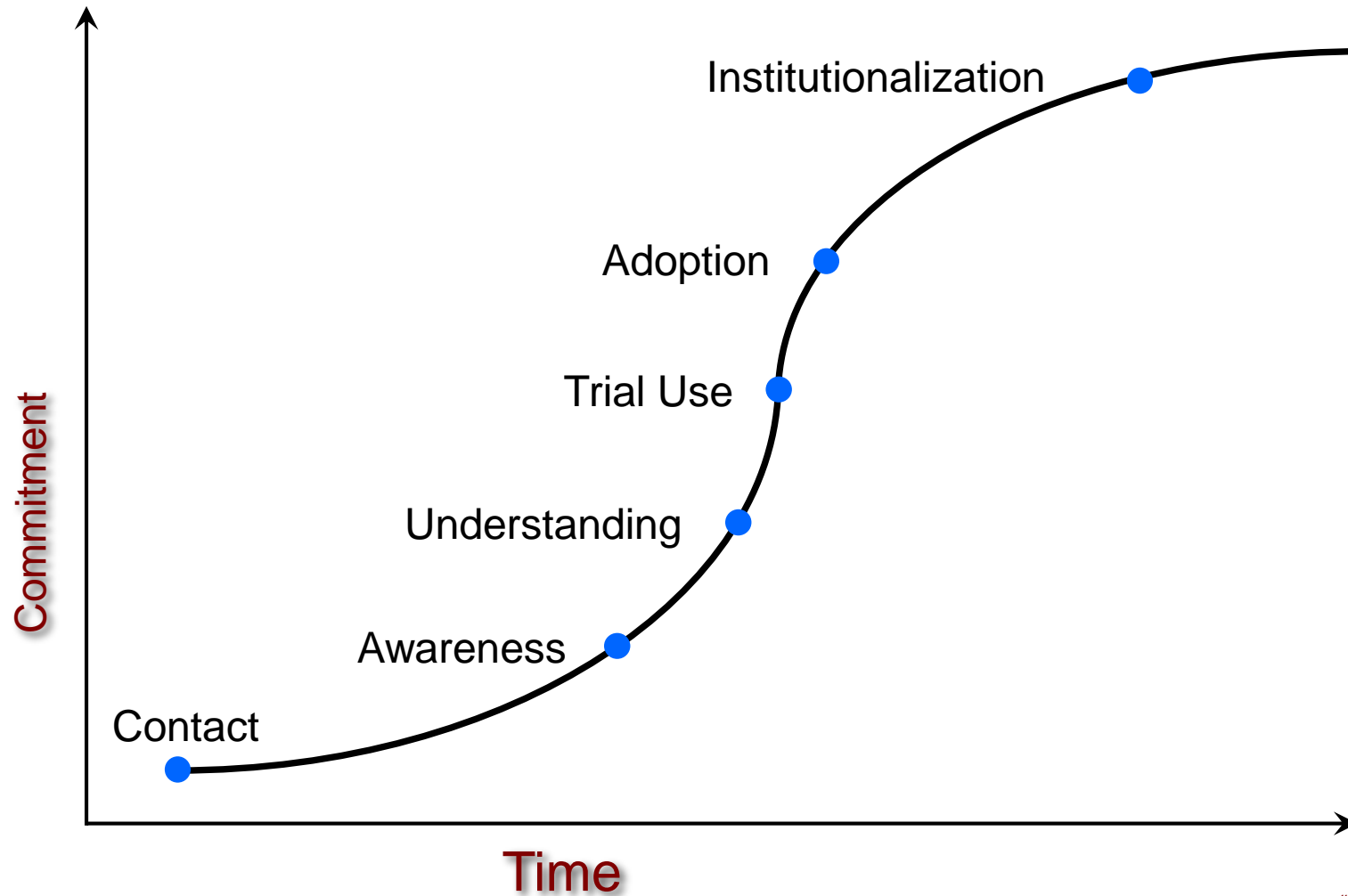
# Managing Change: Tactics by Phase



*Adapted from [Managing Transitions](#), William Bridges*

# Finally, You Can Always Fall Back

*It can be a continuous uphill battle*



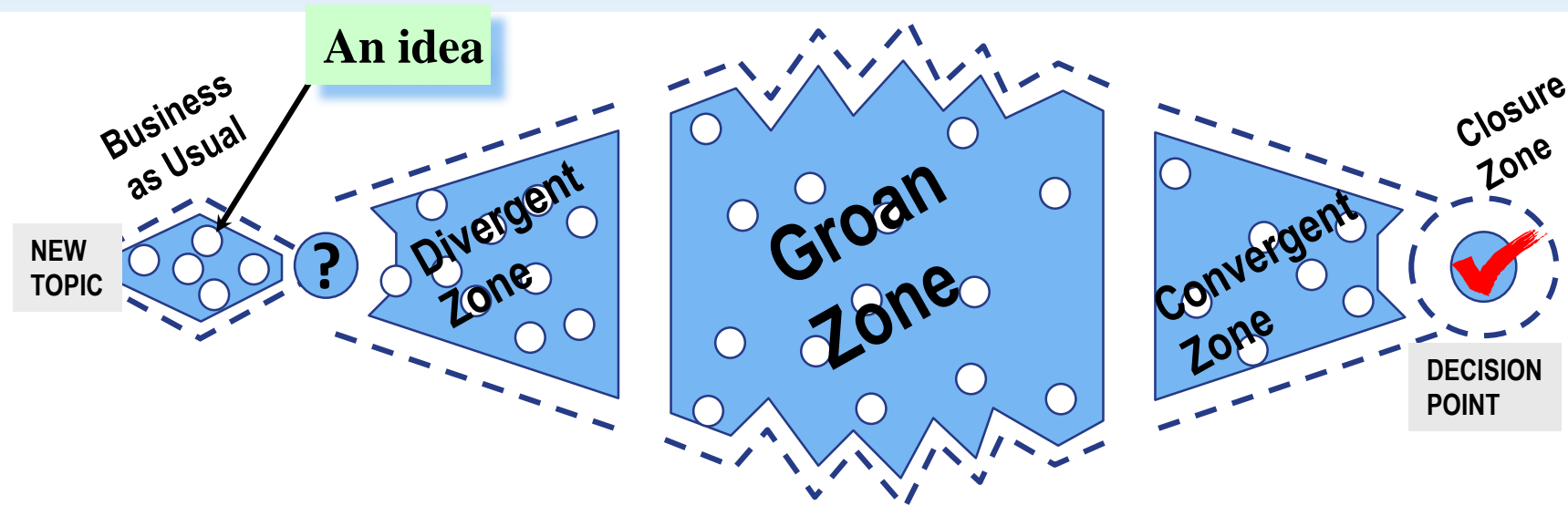
Conner, Daryl R. and Robert W. Patterson.  
"Building Commitment to Organizational Change"  
Training and Development Journal, v36 n4 p18-26,28-30. April 1982.

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# A Decision Making Model

## *The Diamond of Participatory Decision-Making process*



The Diamond *describes the process a group goes through* to solve a difficult problem. The *process is neither smooth nor sequential* in nature. It is *characterized by confusion and misunderstanding*. Most people find it hard to tolerate the ambiguity and the conflict that are inherent when people don't have shared frames of reference. Yet a *group's most significant breakthroughs are often preceded by a period of struggle*.

*Kaner, Sam, et al. Facilitators Guide to Participatory Decision Making.  
New Society Publishers. Gabriola Island, BC, Canada. 1996*



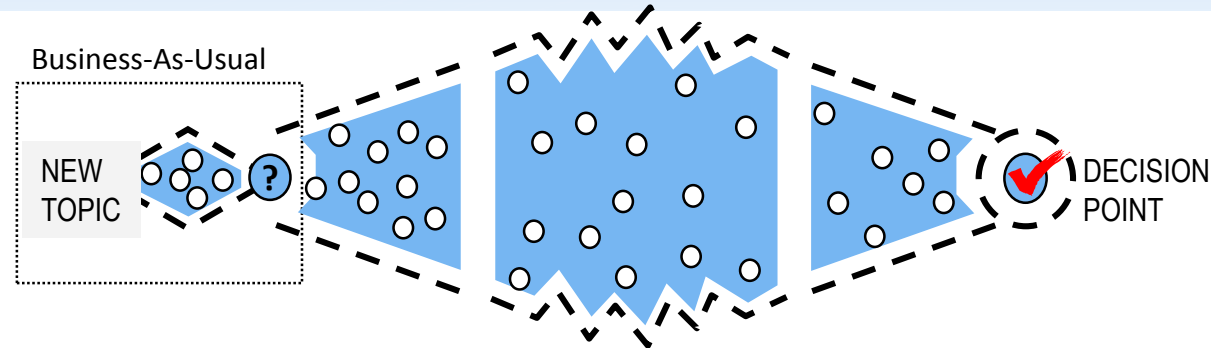
# Participatory Decision-Making Process

*Core values—these are your responsibilities as participants*

- Full Participation
  - All members are encouraged to speak up and say what's on their minds
- Mutual Understanding
  - The members need to understand and accept the legitimacy of one another's needs and goals
- Inclusive Solutions
  - Inclusive solutions are wise solutions
  - Their wisdom emerges from the integration of everybody's perspectives and needs
- Shared Responsibility
  - Members recognize that they must be willing and able to implement the proposals they endorse

# Participatory Decision-Making Process

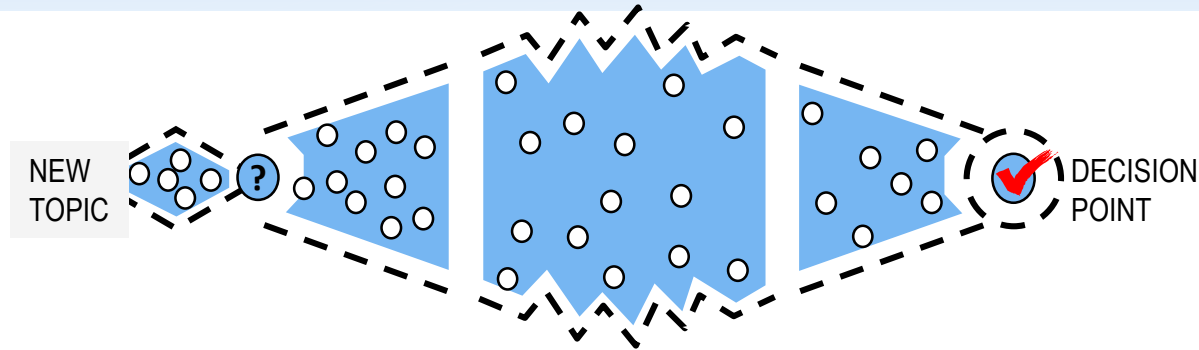
## *Full Participation*



- Participatory decision-making groups go through a business-as-usual phase
  - A decision can be made quickly as familiar opinions lead to a workable solution
- When business-as-usual discussion does not lead to a decision then:
  - Participatory group will open up the process and encourage more divergent thinking

# Participatory Decision-Making Process

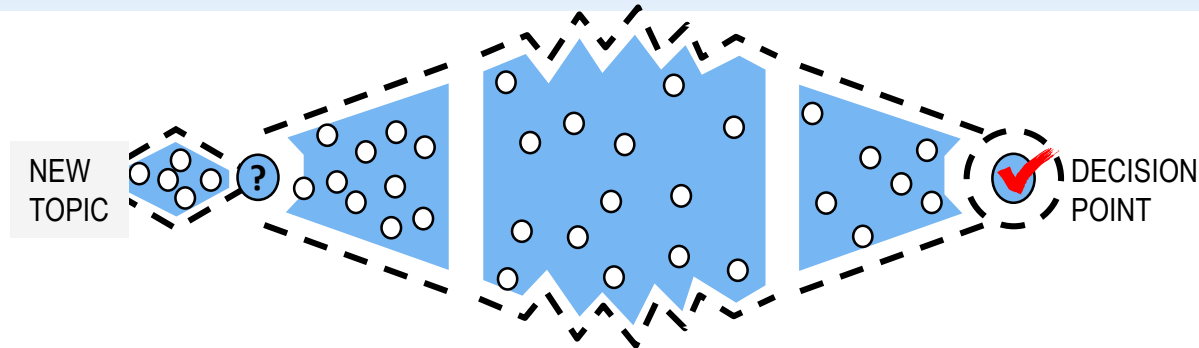
## *Mutual Understanding*



- Building a shared framework of understanding means ...
  - Taking the time to understand everyone's perspective in order to find the best idea
  - To build the framework, participants need to spend time and effort questioning each other, getting to know one another, learning from one another
- Over time, many people gain insight into their own positions
  - They may discover that their own thinking is incomplete or out-of-date

# Participatory Decision-Making Process

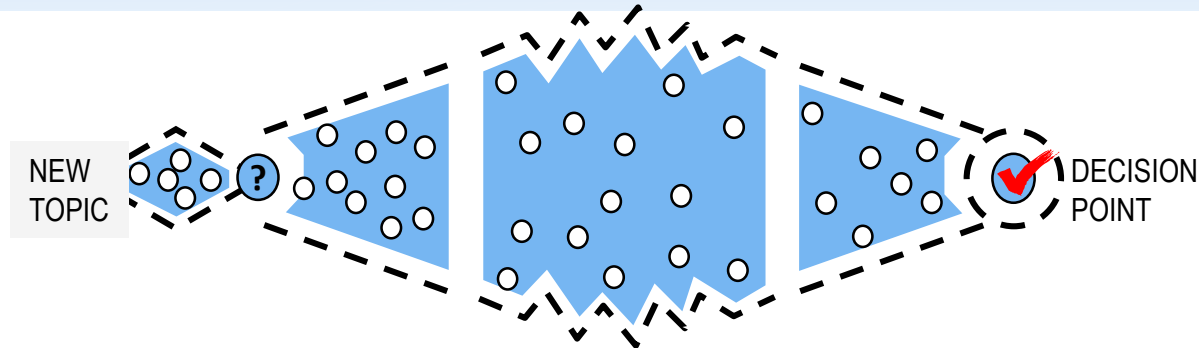
*Inclusive Solutions—the resulting solution*



- Inclusive solutions are *not compromises* and they are not a superset that covers all the possibilities either
  - They work for everyone who holds a stake in the outcome
  - Typically, an inclusive solution involves the discovery of an entirely new option
- Inclusive solutions are usually not obvious
  - They emerge in the course of the group's persistence, this leads to innovation

# Participatory Decision-Making Process

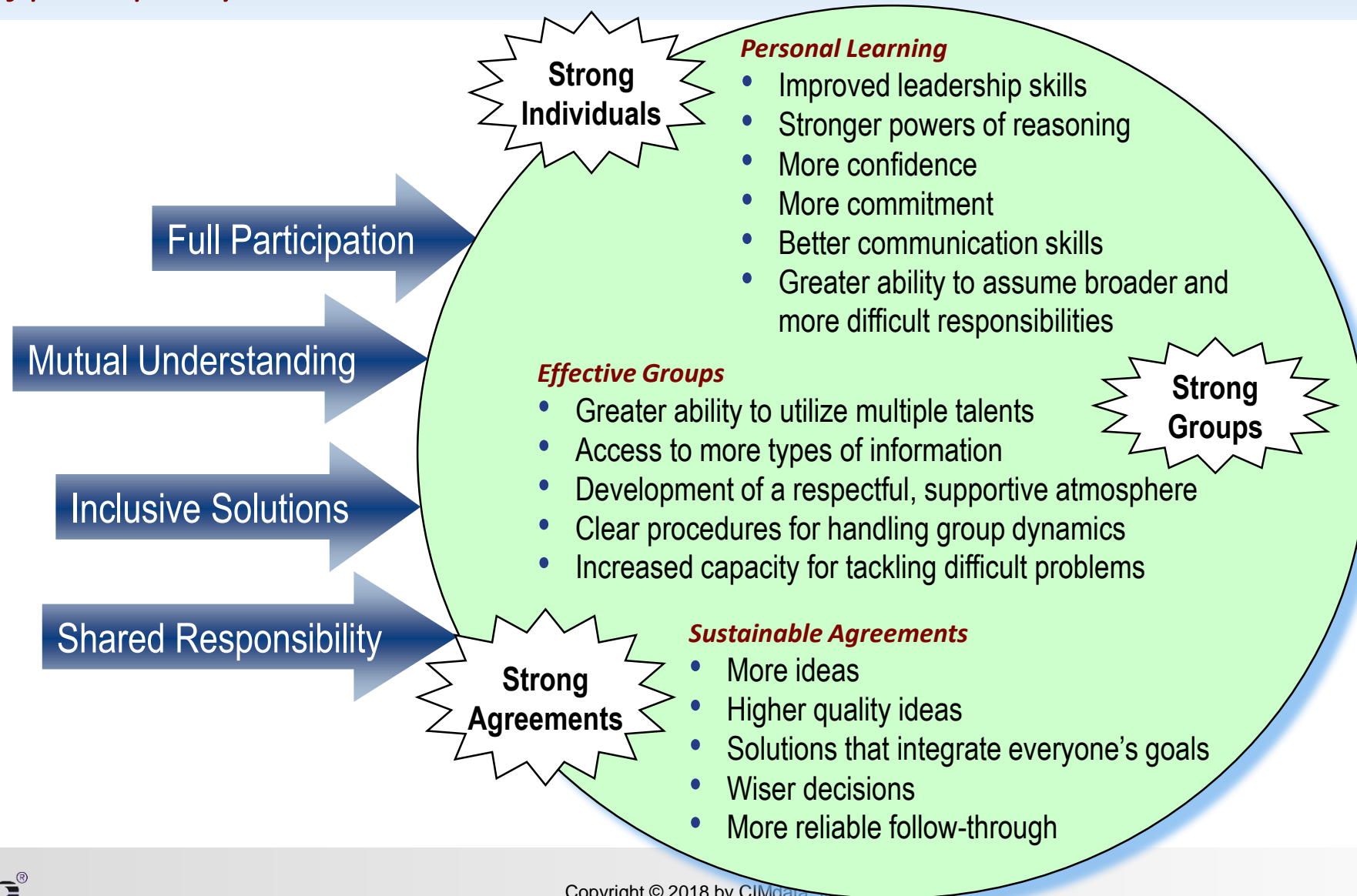
*Shared Responsibility*



- For an agreement to be sustainable, it needs *total support*
- Everyone must *own the decision*, everyone must recognize that he/she is an owner of the outcome
- The commitment to *share responsibility* is evident throughout the process
  - Acceptance of the agenda
  - Willingness to discuss all topics in the open forum
  - The overall expectation that everyone must make the process work

# Participatory Decision-Making Process

*The benefits of participatory values*

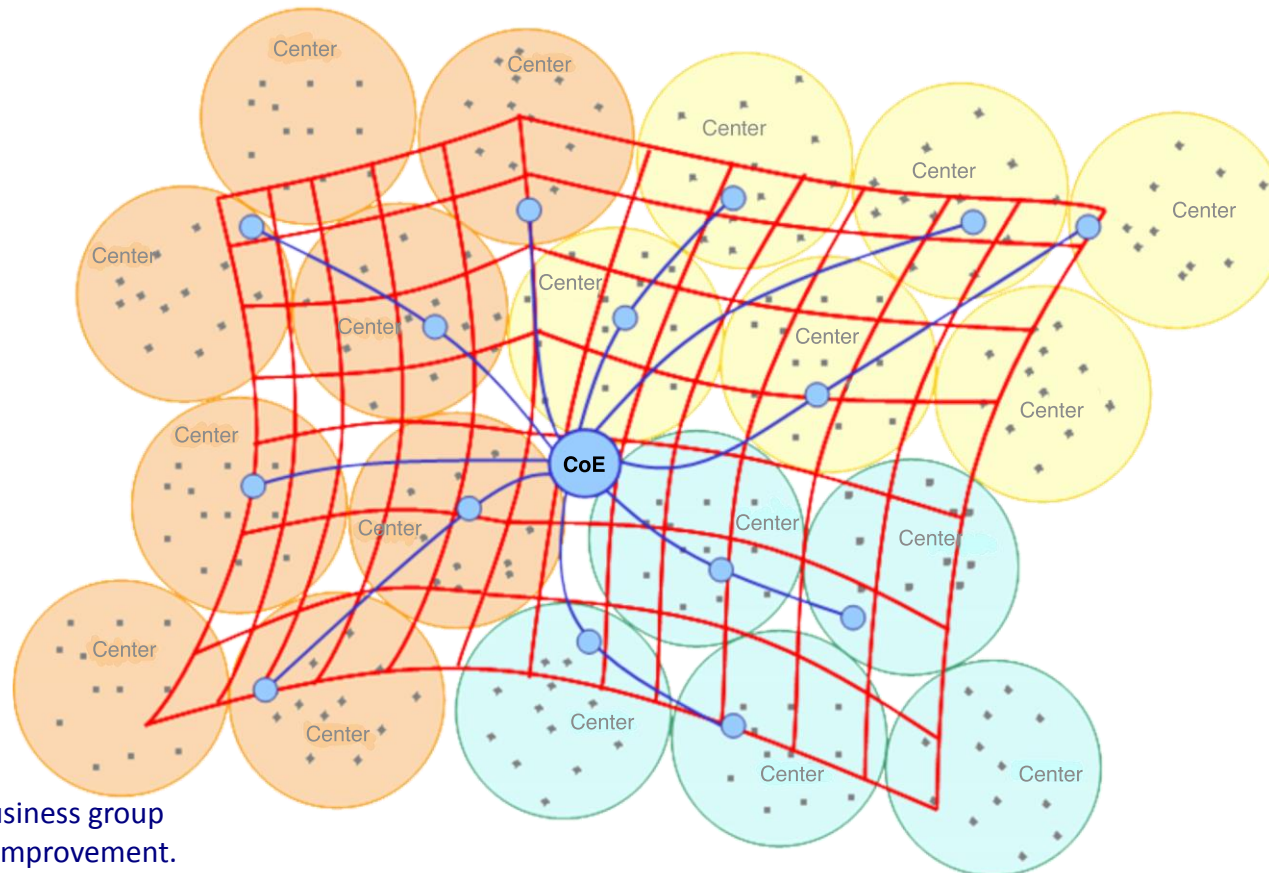




# Organizational Change Management Structure

*A model for outreach to the user communities across regions & departments (1 of 3)*

**Objective:** Groups of people who share the same interest. These people work together to find ways to improve what they do—solving a problem or daily learning through regular interaction.



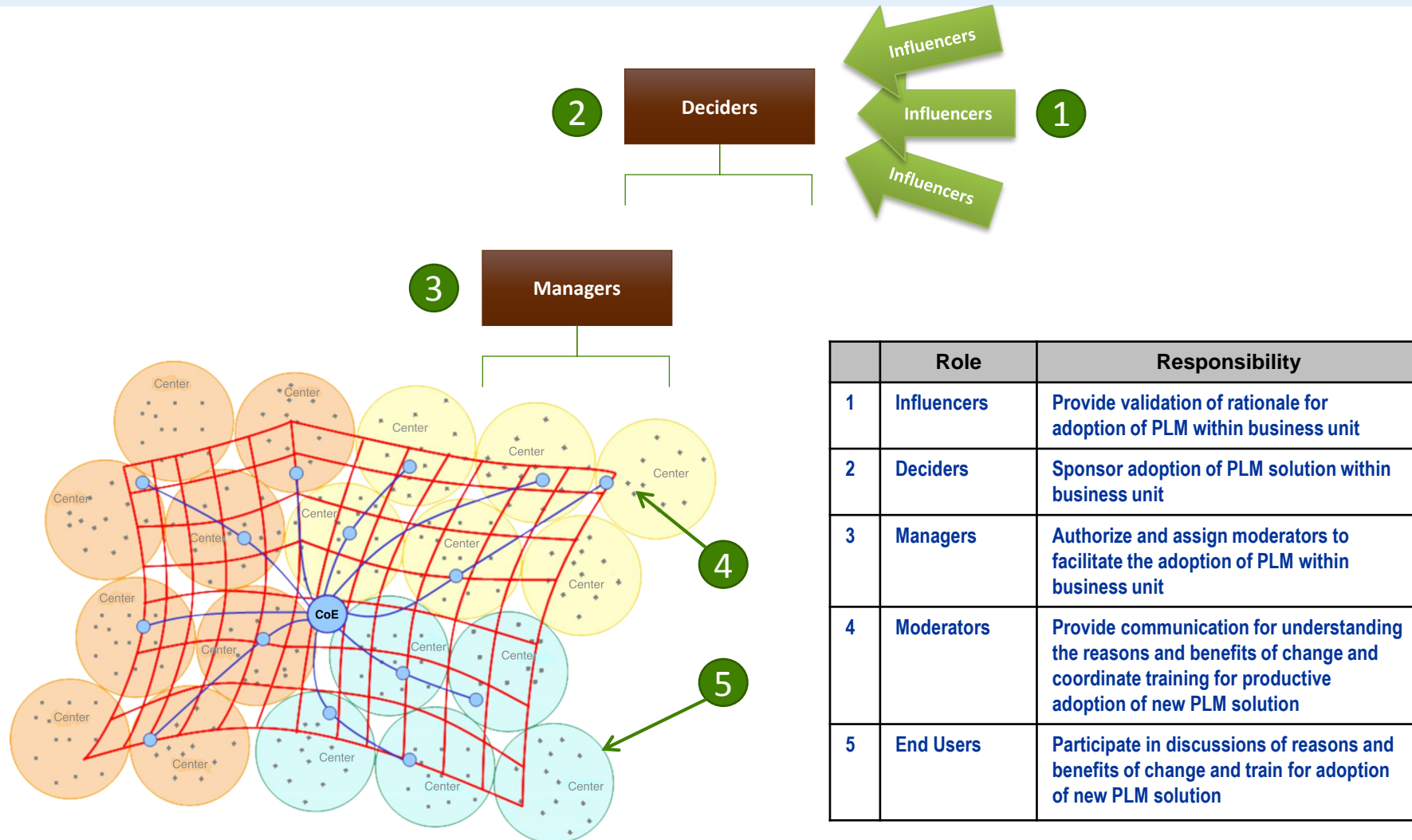
\*Center designates a business group focused on continuous improvement.

Role	Responsibilities
Coordinator	Lead the community and the growth of it. Encourage the participation of members.
Moderator	Assists members about the processes, concepts and tools.
Members	Participates in discussions, presentations and provides vital contribution to process/solution improvements.



# Organizational Change Management Structure

*Sequence of persuasion for adoption of PLM solution (2 of 3)*



# Organizational Change Management Structure

*Education & communication: core elements of a organizational change management plan (3 of 3)*

## Round-Tables



User round tables

## Seminars



- Executives
- Users
- Suppliers
- Partners
- Customers
- Etc.

## Education

## Communication

## Documentation



User briefing  
papers



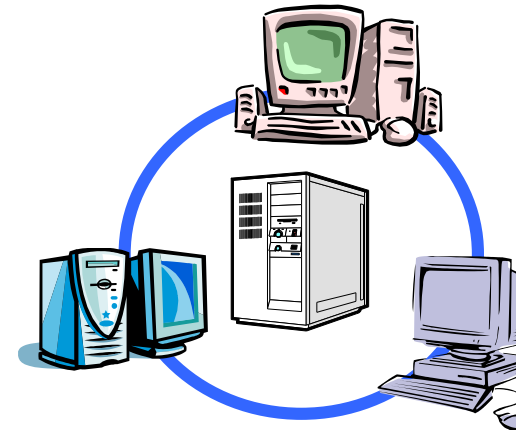
Positioning  
papers



Keynote  
presentations



Video



## Web Site

- Contact Info
- Success stories
- Focused articles
- Events
- Project Info
- Etc.

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# Success Implementation of Change

*Product Lifecycle Management, John Stark, 2006*

- A strong and widely agreed desire for change
- Recognition at the top of the organization of the need for change
- Top management commitment to change
- A single, unchanging theme for change
- Widespread awareness of the reasons for change
- A motivating vision of the future after change
- Changes to the reward and recognition system

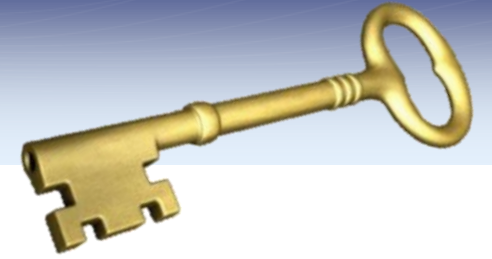
# Key Features of Successful Change

*Product Lifecycle Management, John Stark, 2006*

- Recognition of the need for a clearly defined and professionally managed change project
- Definition of the as-is, intermediate, and to-be states of the organization
- Recognition of different types of people such as leaders, sponsors, agents, champions, accepters, blockers, and sleepers
- The three major tools for change include:
  - Communication
  - Learning (i.e., education)
  - Reward systems

# Keys to Successful Implementations

*A reminder—important aspects and issues*









- Use a broad vision and approach
  - People want a business solution, not another system
- Educate senior management & initial team
- Support and do not undermine company culture
- Select a partner; someone who understands your business needs and has a proven solution and track record
- Scope should be well defined and understood
- Use pilot projects; the key to success
  - Pilots per discipline, or department are often possible

**Success = vision + organization + process + vendor(s) + approach + environment**

# The Goal: Organizational Transition

*Lasting change is the goal of a good organizational change management program*

Need for Change	+ Clear Shared Vision	+ Management Commitment & Behavior	+ People Involvement	+ Supporting Structure and Process	+ Performance Measures	= SUSTAINABLE CHANGE
	✓	✓	✓	✓	✓	= No Action
✓		✓	✓	✓	✓	= No Direction
✓	✓		✓	✓	✓	= No Role Models
✓	✓	✓		✓	✓	= No Ownership
✓	✓	✓	✓		✓	= No Systemic Solutions
✓	✓	✓	✓	✓		= No Results
✓	✓	✓	✓	✓	✓	= SUSTAINABLE CHANGE



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# Concluding Remarks

*Knocking down the siloes requires change*

- End-to-end data and process connectivity is required by those who wish to be digital enterprises...so understand what you are trying to accomplish
- A systems mind set goes a long way to help an organization understand what needs to be done...systems of systems enablement requires change
- Organizational change management is a key requirement, but it can be difficult...so take the time to do it right
- The implementation of complex tools, processes, and digital data doesn't make change any easier...the need to make the complex simple
- Organizational change requires time and effort...so take it
- The keys to success is a multi-variable equation...it's like eating an elephant

# CIMdata

*Strategic consulting for competitive advantage in global markets*



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