Knocking Down Siloes in the Digital Enterprise While Adopting New Technologies
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- Solution evaluation
- Best practices
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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.
PLM Cuts Across Departments & Organizations

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...
We are educated, thinking and working in Silos
……we are Educated and Working in Silos

We have to change the traditional more discipline-oriented design methodologies, processes and organization completely and develop new collaborative, integrated and interdisciplinary methods and processes for innovative smart product and systems design.

Model Based Systems Engineering (MBSE)
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
Systems Engineering

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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
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

Organizational Change is a Process

Quickly overcoming this is critical to success

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)!*

<table>
<thead>
<tr>
<th>Time to Adjust</th>
<th>Level of Learning Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years</td>
<td>Small</td>
</tr>
<tr>
<td>Months</td>
<td>Medium</td>
</tr>
<tr>
<td>Weeks</td>
<td>Large</td>
</tr>
</tbody>
</table>

### Magnitude of Planned Change

- Culture
- Strategy
- Organization
- Practices
- Skills

“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

- Don’t Understand
- Don’t know what & when
- Don’t know how
- Don’t want to

Directives
- Reward structures
- Human Resources Policies
- Coaching & Feedback

Competency modelling
- Role Definitions
- Coaching & Training

Communication - understanding
- Audience Impact Analysis
- Involvement

Communication - awareness
- Information

Increasing Accountability
- Education
- Communication
- Pressure

Time
Managing Change

Adapted from *Managing Transitions*, William Bridges
## Managing Change: Tactics by Phase

### Ending
- Communicate the What, Why and How
- Acknowledge emotions, don't get defensive
- Mark Endings
- Get leadership to play a role
- Expose key leaders and stakeholders to these concepts/conduct trainings

### Transition Zone
- Allow resistance to surface
- Provide information about the future/use HR support structures
- Encourage creativity and innovation
- Talk to employees about individual transitions
- Integrate details into meetings and events

### New Beginning
- Reward and Recognize
- Celebrate
- Ensure organizational support for new beginning
- Communicate the What, Why and How
- Consider how it integrates into other areas of the organization’s change plan

Adapted from *Managing Transitions*, William Bridges.
Finally, You Can Always Fall Back

*It can be a continuous uphill battle*

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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.

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 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
• 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
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

- **Strong Individuals**
  - Personal Learning
    - Improved leadership skills
    - Stronger powers of reasoning
    - More confidence
    - More commitment
    - Better communication skills
    - Greater ability to assume broader and more difficult responsibilities

- **Effective Groups**
  - Greater ability to utilize multiple talents
  - Access to more types of information
  - Development of a respectful, supportive atmosphere
  - Clear procedures for handling group dynamics
  - Increased capacity for tackling difficult problems

- **Sustainable Agreements**
  - More ideas
  - Higher quality ideas
  - Solutions that integrate everyone’s goals
  - Wiser decisions
  - More reliable follow-through

- **Full Participation**
- **Mutual Understanding**
- **Inclusive Solutions**
- **Shared Responsibility**

Strong Groups

Strong Agreements

Mutual Understanding

Inclusive Solutions

Shared Responsibility

Full Participation
**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.*

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
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</thead>
<tbody>
<tr>
<td>Coordinator</td>
<td>Lead the community and the growth of it. Encourage the participation of members.</td>
</tr>
<tr>
<td>Moderator</td>
<td>Assists members about the processes, concepts and tools.</td>
</tr>
<tr>
<td>Members</td>
<td>Participates in discussions, presentations and provides vital contribution to process/solution improvements.</td>
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</table>
Organizational Change Management Structure

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

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influencers</td>
<td>Provide validation of rationale for adoption of PLM within business unit</td>
</tr>
<tr>
<td>Deciders</td>
<td>Sponsor adoption of PLM solution within business unit</td>
</tr>
<tr>
<td>Managers</td>
<td>Authorize and assign moderators to facilitate the adoption of PLM within business unit</td>
</tr>
<tr>
<td>Moderators</td>
<td>Provide communication for understanding the reasons and benefits of change and coordinate training for productive adoption of new PLM solution</td>
</tr>
<tr>
<td>End Users</td>
<td>Participate in discussions of reasons and benefits of change and train for adoption of new PLM solution</td>
</tr>
</tbody>
</table>
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**
- 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

<table>
<thead>
<tr>
<th>Need for Change</th>
<th>Clear Shared Vision</th>
<th>Management Commitment &amp; Behavior</th>
<th>People Involvement</th>
<th>Supporting Structure and Process</th>
<th>Performance Measures</th>
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Concluding Remarks

Knocking down the silos 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