HOW TO DEAL WITH THE INCOMPATIBLE FUTURE?

Lessons and Impressions from the field



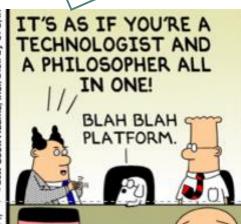
Jos Voskuil

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The PLM space



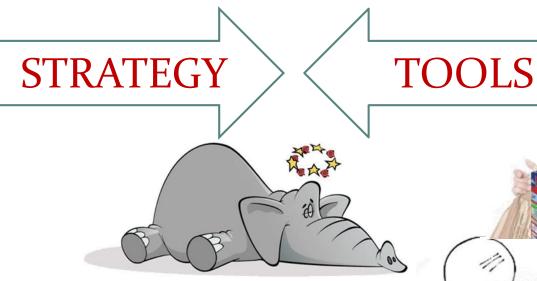






The PLM space











The Know-How to Know Now



Looking back – The Perfect Storm - 2015





The Know-How to Know Now

The impression of evolution

Technologies

Product Innovation Platforms

Key Business Indicators

Job Performance Metrics

Processes and **Practices**

Technology

Organization

| | Reactive | Repeatable | Integrating | Collaborating | Orchestrating |
|---|-------------|------------------------|--|--------------------------------------|---|
| , | Status Quo | Eliminate waste | Improving Product Quality and Cost | Efficient Product Innovation | Efficiently Expanding Product Diversity |
| | Few or None | Time/Efficiency | Productivity and Scalability | Enable Performance Improvement | Enable Strategy Improvement |
| | Ad Hoc | Robust | Across Internal Functions | Value-Chain Involved | Value-Chain Engaged |
| | Disparate | Functionally Siloed | Coordinated | Connected | Adaptive |
| | Tribal | "Territorial" | Internally Cross- Functional | Cross-Value- Chain Through | Cross-Value- Chain Through |

Growing priority to adopt standards

NPI

Life Cycles

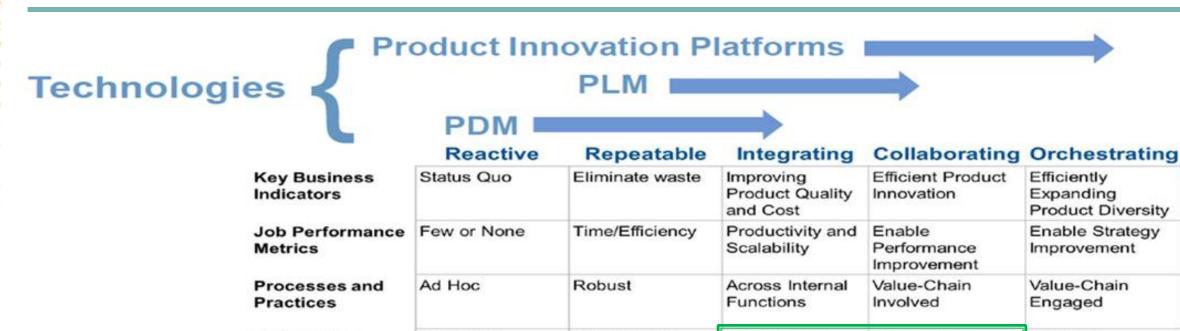


Marc Halpern - 2015

Where are we for PLM?

Technology

Organization



Disparate

Tribal

Past Current Started Vision

NPI

Connected

Cross-Value-

Chain Through

Adaptive

Cross-Value-

Life Cycles

Chain Through

Coordinated

Functional

Internally Cross-

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Functionally

"Territorial"

Siloed



Coordinated and Connected → Evolutionary Path



| Collaborating | Ore |
|--------------------------------------|----------------------|
| Efficient Product Innovation | Effic Exp Prod |
| Enable Performance Improvement | Ena Imp |
| Value-Chain Involved | Valu Eng |
| Connected | Ada |
| Cross-Value- Chain Through NPI | Cro Cha Life |



From Coordinated to Connected: Different Data



System of Record

Co-evolution of Complex Aeronautical System & Complex System Engineering



Connected requires:

- Data Quality Master Data Management
- Product / System definition as connected elements: MBSE / MBD / Digital Twin

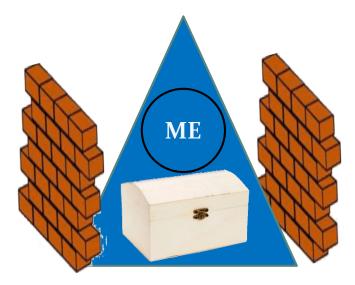
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From Coordinated to Connected: Different People



From "OWNING"
To "SHARING"





From "Siloed Specialist" To "T - Profile"

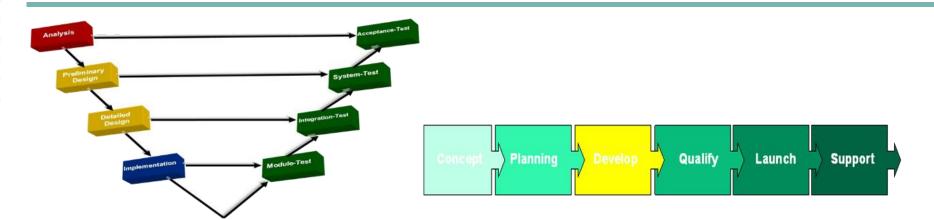


Customer & Communication



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From Coordinated to Connected: Different Processes



Linear Inside Out Documents



Outside In
Data-driven
Incremental



Coordinated and Connected > The need for both







Traditional application-domain-based model with some agile adoption

- Technology group organized based on application and infrastructure domains
- Teams siloed and use waterfall methodologies

Small digital pods; rest of technology organization stays conventional

- Small ringfenced digital team with high autonomy
- Other teams remain organized around conventional application and infrastructure groups

Digital product teams and conventional technology operating separately

- Multiple digital teams with dedicated and pooled resources
- Minimal interoperability between digital and conventional teams operating at different speeds
- Conventional application groups starting to experiment with agile methodologies



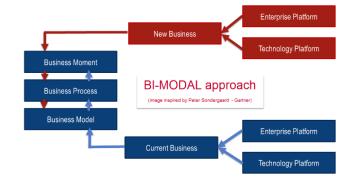
Digital product teams collaborating with conventional technology teams

- Teams organized around products, internal capabilities (platforms), and system of records
- Significant agile and DevOps adoption by conventional groups; product teams fully agile
- Increased focus on minimizing redundancy and maximizing interoperability between teams



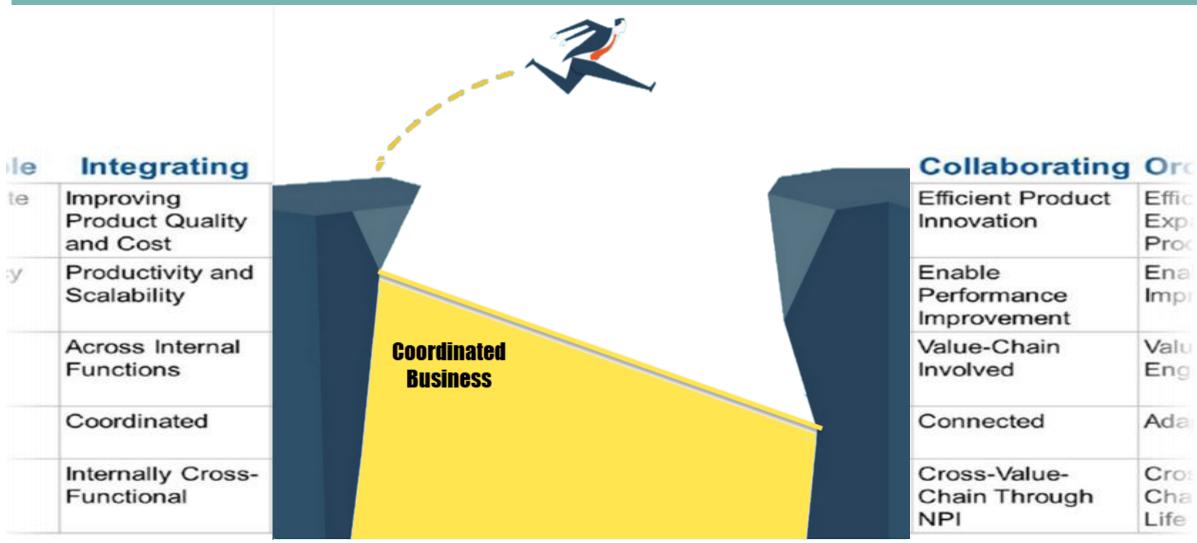
Holistic productbased organization

- Leverages capabilityoriented delivery teams (tribes and chapters)
- At-scale automation enables continuous integration and continuous delivery



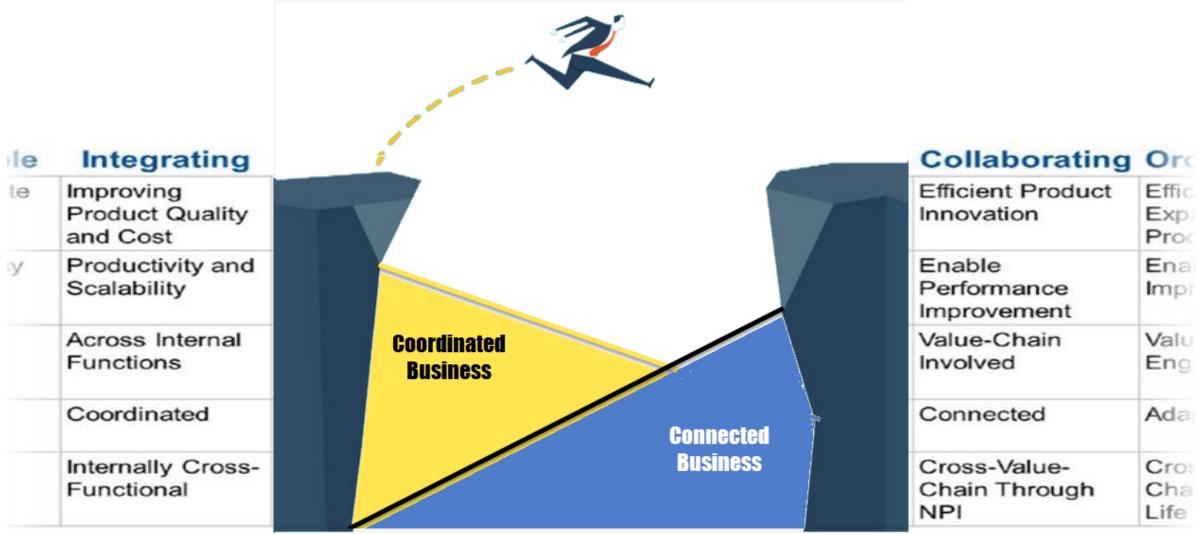


Coordinated and Connected > The need for both





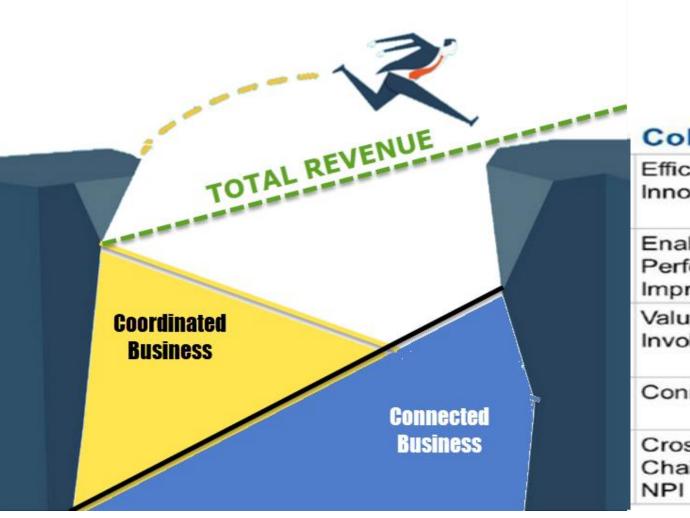
Coordinated and Connected The Need for Both





Coordinated and Connected – the transition

| le | Integrating |
|----|--|
| te | Improving Product Quality and Cost |
| У | Productivity and Scalability |
| | Across Internal Functions |
| | Coordinated |
| | Internally Cross- Functional |



| Collaborating | Ore |
|--------------------------------------|---------------------|
| Efficient Product Innovation | Effic Exp Pro |
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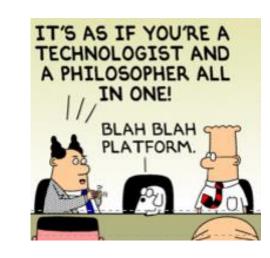


Connected and Coordinated → Strategy



- Think long term holistic vision
- Understand PLM forget One PLM
- Change and measure business differently "horizontal" KPIs needed

- Understand the incompatibility of data
- Transition comes from a 2-speed approach
- No migration !! waste of time / money



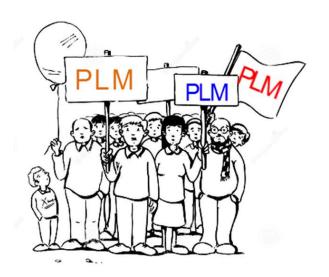


Connected and Coordinated Execution

- Build your solution / portfolio for a coordinated and connected approach
- Rip-and-replace does not work anymore
- No Migration



+ Implementers



- People will not change they adapt within their ability to change
- People cannot perform in two modes
- Use a coaching model for transition



Conclusions

• Digital Transformation is a challenge for Product Definition Data (PLM ?) due to the incompatibility of current and future data.

• The (Extended) Digital Thread is a challenge – Heaven and Hell have to come together.

Build a strategy for Coordinated and Connected –
 Avoid migration – focus on connecting

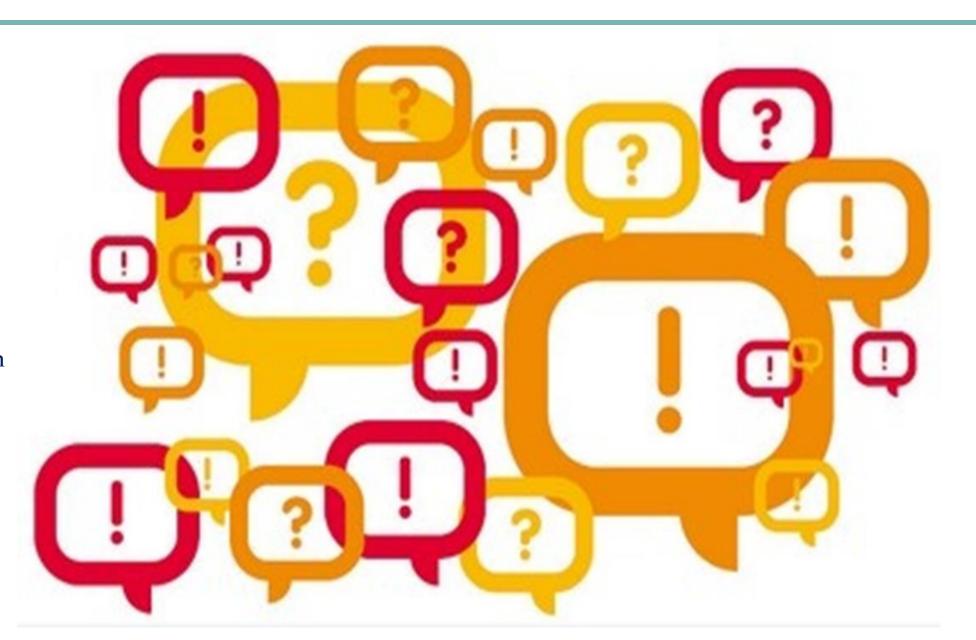


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