Product Lifecycle Management

Product information backbone for a company

Shuning Li
Product Lifecycle
Product Lifecycle Management

Courtesy of UGS, 2006
<table>
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<tr>
<th>Portfolio &amp; Requirements Planning</th>
<th>Product Concept &amp; Development</th>
<th>Manufacturing &amp; Factory Planning</th>
<th>Production Test &amp; Quality</th>
<th>Maintenance &amp; Repair Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRM Inform</strong></td>
<td><strong>SCM</strong></td>
<td><strong>ERP</strong></td>
<td><strong>PLM</strong></td>
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<tr>
<td>Select Buy Receive Evaluate</td>
<td>Order Plan Resource Schedule Build</td>
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</table>

- Customer Relationship Management (CRM)
- Supply Chain Management (SCM)
- Enterprise Resource Planning (ERP)
- Product Lifecycle Management (PLM)
PLM Solutions

- Based on Industry
  - Aerospace/Auto/High Tech/Consumer Goods/etc.
  - Proven technologies
  - Proven applications
  - Proven scalability
  - Proven integration
  - Proven value

- Based on the size of the company
  - Large size/Medium to small size company solutions
PLM SYSTEM IMPLEMENTATION
PLM System Implementation

• Implementation is one of the most important issues in PLM.
  – A successful PLM system needs systematic implementation processes; and Out-Of-The-Box PLM software cannot be used directly;
  – Implementation services cost about 40% of overall PLM solution cost.

PLM System Implementation

Business Case → Establish PLM Team → Knowledge Transfer

Configuration and Customization → Process Optimization/Recreation → Interview (Information Collection)

Testing (System Validation) → Deployment and End User Training
Success Stories and Challenges in PLM Implementation

CASE STUDIES
Deutsche Blisterunion

- **Industry**: Packaging in Pharmaceutical Industry
- **Business Challenges**:
  - Logistics of supply chain, particularly the signatory specialists (regulated industry, quality control)
  - Electronic signature (must be accepted by regulatory body)
Deutsche Blisterunion

• **Solutions:**
  – Standardized and simplified manufacturing, logistics and quality control processes;
  – New electronic signature process, and signature by smartcard and reader

• **Results:**
  – Increased process speed due to central process control (PLM is hosted centrally, reduced cost);
  – New process completely compliant with quality regulations;
  – QP (person with signature authority) can work several manufacturing centers; and orders can be fast transferred in case of sickness and vacation of QP
Wright Medical Technology

• **Industry:** Medical Devices
• **Business Challenges:**
  – Speed and confidence in designing and producing medical devices
  – Compliance with FDA and other applicable requirements
  – Ability to continually innovate Effective management of product and process data
Wright Medical Technology

• **Solutions:**
  – CAD software for digital product development
  – PLM software for digital data management
  – Data access/re-use across decades
  – Virtual prototyping
  – Collaboration across departments, distributors and customer

• **Results:**
  – New Product brought to market in record time
  – More efficient design turnaround
Volkswagen Group South Africa

- **Industry**: Automotive
- **Business Challenges:**
  - Tight timeframe for making changes to race cars
Volkswagen Group South Africa

• **Solutions:**
  – Tight integration of CAD and PLM systems
  – Kinematics analysis and finite element analysis
  – CAD software with synchronous technology

• **Results:**
  – Fast changes to existing geometry
  – Even complex parts can be redesigned in half a day
  – Fast searches through thousands of drawings
  – Entire team, suppliers and sponsors kept in the loop
Haier Group

• **Industry:** Consumer Electronics
• **Business Challenges:**
  – New product development Value chain synchronization
  – Commonization and re-use Knowledge and IP management
  – Regulatory compliance
  – Speed the pace of innovation
Haier Group

• **Solutions:**
  – Easy-to-use part library
  – Digitally managed approval/release processes
  – Improved project visibility and monitoring
  – Platform that supports global design and supply chain

• **Results:**
  – 15 percent faster to market;
  – Accurate drawings virtually eliminate rework and erroneous purchases
  – 29 percent part reduction through standards/re-use; cost reduction from high-volume purchases 80 percent reduction in non-value-added collaboration
Challenge Case I

• Industry: Industrial machinery and equipment

• Challenges:
  – Paper based documents and design data;
  – Product development highly relied on a few senior engineers;
  – Bad experiences from previous information system implementation

• Solutions:
  – Comprehensive history data reorganization and migration plan;
  – One-on-one talks with key personal and higher management;
  – Additional trainings
Challenge Case II

• Industry: Hi-tech electronics

• Challenges:
  – Unregulated and unstandardized processes;
  – Lack of trust to implementation team when project started;
  – Conflicts between design and manufacturing departments

• Solutions:
  – Education and training about information system before project started;
  – More flexible workflows;
  – Had the end-users get involved more during implementation
Challenges in PLM Implementation

• Setup an appropriate project scope
  – Needs to be done as early as possible
  – Step-by-step implementation

• Software integration and interfaces
  – Vault/Visualization/Structure Level integration

• Data migration
  – Data migration plan
  – Coding system and Old data transfer
Challenges in PLM Implementation

• Conflicted interests
  – Between different departments or business units
  – Between higher and lower level managements
  – Between IT support team and the end users

• Bad experiences from previous information system implementation

• Security concerns
  – Data security within the system
  – Important information exposure during interviews or system configurations
Thank you!

Questions?