Agenda

• **Yesterday**
  - Independent process traditions, each with their own theories and practices

• **Today**

• **Tomorrow**
Business Process Traditions

- **1900**: Ford – Contentious Production Line
  - Taylor – *Scientific Management*
- **WW II**: Production
- **1900-2000**: First Computers, Outsourcing, Internet
- **2008**: BPMS

**Processes**
- **Work Simplification**
- **Quality Control, Six Sigma, Lean**
- **Information Technology**
- **Business Management**
- **Business Process Management**
The Simplification/Quality Tradition

Main Focus: Continuous Process Improvement
Gurus: Shewhart, Demings, Juran, Ohno, Womack
Organizations: ASQ, ISSSP
Six Sigma at the Process Level: DMAIC

1. Define
   - Plan Project
   - 1-2 wks.
   - 1. Define project
   - 2. Identify customer requirements
   - 3. Document process
   - 4. Set goal

2. Measure
   - Identify Measures
   - 1-2 wks.
   - 1. Identify Measures
   - 2. Define measures
   - 3. Develop & test data collection methods
   - 4. Define baseline measures

3. Analyze
   - Analyze Data
   - 2 wks.
   - 1. Analyze date
   - 2. Explore possible causes and test hypotheses
   - 3. Identify causes

4. Improve
   - Implement Measurement
   - 4-8 wks.
   - 1. Select a solution
   - 2. Pilot test solution
   - 3. Implement full scale solution

5. Control
   - Document and Maintain
   - Ongoing
   - 1. Document and keep score of results

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LEAN Flow Kaizen: Value-Stream Mapping

An Enterprise Level LEAN Modeling Technique

From: Learning to See: Value-Stream Mapping to Create Value and Eliminate Muda, by Mike Rother and John Shook
The Lean Enterprise Institute, 2003

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Capability Maturity Model Integrated (CMMI)

Level 1. No Organized Processes
- Processes are Improved at the Work Group or Departmental Level
- Cultures of Heroes

Level 2. Some Organized Processes
- Processes are Organized and Redesigned at the Enterprise Level

Level 3. Most Processes Organized
- Processes are Measured and Managed Systematically

Level 4. Processes Are Managed
- Processes Teams Continuously Improve Processes

Level 5. Processes Continuously Improved

Software Engineering Institute (SEI)
@ Carnegie Mellon University

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The Process Management Tradition

Main Focus: Improvement of Organization Performance
Gurus: Rummler, Porter, Heskett, Kaplan & Norton
Organizations: HBR, ISPI, SCC
The Organization and the Value Chain

Product Value Chain

Research & Create New Product

Make & Deliver Products

Promote & Sell Product

Customers

Suppliers

new need identified

new product design

product available

order

promotions

product delivered
# Rummler’s Performance Model

<table>
<thead>
<tr>
<th></th>
<th>Goals &amp; Measures</th>
<th>Design &amp; Implementation</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational Level</strong></td>
<td>Organizational Goals and Measures of Organizational Success</td>
<td>Organizational Design and Implementation</td>
<td>Organizational Management</td>
</tr>
<tr>
<td><strong>Activity or Performance Level</strong></td>
<td>Activity Goals and Measures of Activity Success</td>
<td>Activity Design and Implementation</td>
<td>Activity Management</td>
</tr>
</tbody>
</table>
Rummler’s Process Management Model

Plan and Provision Activity

Provide Feedback and Take Corrective Action

Activity: Review Order Reports

Knowledge, Business Rules, Non-IT Documentation created and stored.

Applications, Data from Databases, Data placed in Databases

Monitor Activity Output Measures

Order Reports

Approved Reports
Michael Porter’s Value Chain Model

From Michael Porter, *Competitive Advantage*, Harvard, 1985
## Kaplan and Norton’s Balanced Scorecard

<table>
<thead>
<tr>
<th></th>
<th>Financial Perspective</th>
<th></th>
<th>Internal Business Perspective</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goals</strong></td>
<td><strong>Measures</strong></td>
<td><strong>Goals</strong></td>
<td><strong>Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Survive</td>
<td>Cash flow</td>
<td>Technology capability</td>
<td>Manufacturing geometry vs. competition</td>
<td></td>
</tr>
<tr>
<td>Succeed</td>
<td>Quarterly sales growth &amp; operating income by division</td>
<td>Manufacturing experience</td>
<td>Cycle time, Unit cost, Yield</td>
<td></td>
</tr>
<tr>
<td>Prosper</td>
<td>Increased market share and ROE</td>
<td>Design productivity</td>
<td>Silicon efficiency, Engineering efficiency</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>New product introduction</td>
<td>Actual introduction schedule vs. plan</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Innovation &amp; Learning Perspective</strong></th>
<th><strong>Customer Perspective</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goals</strong></td>
<td><strong>Measures</strong></td>
</tr>
<tr>
<td>Technology leadership</td>
<td>Time to develop next generation</td>
</tr>
<tr>
<td>Manufacturing learning</td>
<td>Process time to maturity</td>
</tr>
<tr>
<td>Product focus</td>
<td>Percent of products that equal 80% sales</td>
</tr>
<tr>
<td>Time to market</td>
<td>New product interdiction vs. competition</td>
</tr>
</tbody>
</table>

Modified from an example in Kaplan and Norton: Balanced Scorecard (HBR)
Aligning Balanced Scorecards

Organizational Measures

<table>
<thead>
<tr>
<th>Financial Measures</th>
<th>Customer Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process Measures</td>
<td>Learning &amp; Growth Measures</td>
</tr>
</tbody>
</table>

Departmental Measures

<table>
<thead>
<tr>
<th>Financial Measures</th>
<th>Customer Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process Measures</td>
<td>Learning &amp; Growth Measures</td>
</tr>
</tbody>
</table>

Activity Measures

<table>
<thead>
<tr>
<th>Financial Measures</th>
<th>Customer Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process Measures</td>
<td>Learning &amp; Growth Measures</td>
</tr>
</tbody>
</table>
### Dividing Up the Scorecard Between Function and Process

#### Balanced Business Scorecard

<table>
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<td>Succeed</td>
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<tr>
<td>Prosper</td>
<td>Increased market share and ROE</td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Internal - Process Perspective

<table>
<thead>
<tr>
<th>Goals</th>
<th>Measures</th>
<th>Goals</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology capability</td>
<td>Manufacturing geometry vs. competition</td>
<td>New products</td>
<td>Percent of sales from new products,</td>
</tr>
<tr>
<td>Manufacturing experience</td>
<td>Cycle time, Unit cost, Yield</td>
<td>Response supply</td>
<td>Percent of sales from proprietary products</td>
</tr>
<tr>
<td>Design productivity</td>
<td>Silicon efficiency, Engineering efficiency</td>
<td>Preferred supplier</td>
<td>On-time delivery (defined by customer)</td>
</tr>
<tr>
<td>New product introduction</td>
<td>Actual introduction schedule vs. plan</td>
<td>Customer partnership</td>
<td>Share of key accounts’ purchases,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ranking by key accounts</td>
</tr>
</tbody>
</table>

#### Customer Perspective

<table>
<thead>
<tr>
<th>Goal – Measure most likely assigned to Process Manager</th>
<th>Goal – Measure most likely assigned to Functional Manager</th>
</tr>
</thead>
</table>

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Functional vs. Process Measures

Organizational Measures

- Financial Measures
- Customer Measures
- Internal Process Measures
- Learning & Growth Measures

Departmental Measures Derive From Organizational Measures

- Financial Measures
- Customer Measures
- Internal Process Measures
- Learning & Growth Measures

Activity Measures Derive From Dept. Measures

Value Chain Measures

- Financial Measures
- Customer Measures
- Internal Process Measures
- Learning & Growth Measures

Level 1 Process Measures

- Financial Measures
- Customer Measures
- Internal Process Measures
- Learning & Growth Measures
Information Technology Tradition

1980s 1990’s 2000s

Business Process Reengineering

IT Architectures (Zachman)

Structured Software Methodologies

CASE Tools

Business Process Modeling Tools

OO Software Methodologies

UML

Enterprise Application Integration (EAI)

BPMN

Workflow

BPMS

Packaged Software (ERP, CRM)

Expert Systems

Business Rules

Business Intelligence

Main Focus: Process Automation

Gurus: Martin, Scheer, Hammer, Smith & Fingar...

Organizations: ISO, WfMC, IEEE, OMG, IIBA, Gartner...
Agenda

• Yesterday

• Today  Some Interesting Developments
  – Frameworks
  – Value Chains vs Networks
  – ERP and BPMS
  – The Uses of BPMS
  – BPMN and Business Rules
  – Modeling Customer Processes

• Tomorrow
Business Process Traditions

- Work Simplification
- Quality Control, Six Sigma, Lean
- Information Technology
- Business Management
- Business Process Management

1900
- Ford — Contentious Production Line
- Taylor — Scientific Management

WWII — Production
- First Computers
- Outsourcing
- Internet

2000
2008

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SCOR’s Business Process Framework
### SCOR Benchmarks Provide Instant ROI

#### Supply Chain SCORcard

<table>
<thead>
<tr>
<th>Overview Metrics</th>
<th>SCOR Level 1 Metrics</th>
<th>Actual</th>
<th>Parity</th>
<th>Advantage</th>
<th>Superior</th>
<th>Value from Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain Reliability</td>
<td>Delivery Performance to Commit Date</td>
<td>50%</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
<td>$30M Revenue</td>
</tr>
<tr>
<td></td>
<td>Fill Rates</td>
<td>63%</td>
<td>94%</td>
<td>96%</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perfect Order Fulfillment</td>
<td>0%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td>$30M Revenue</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Order Fulfillment Lead Times</td>
<td>35 days</td>
<td>7 days</td>
<td>5 days</td>
<td>3 days</td>
<td>$30M Revenue</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Supply Chain Response Time</td>
<td>97 days</td>
<td>82 days</td>
<td>55 days</td>
<td>13 days</td>
<td>Key enabler to cost and asset improvements</td>
</tr>
<tr>
<td></td>
<td>Production Flexibility</td>
<td>45 days</td>
<td>30 days</td>
<td>25 days</td>
<td>20 days</td>
<td></td>
</tr>
</tbody>
</table>

### Industry Benchmarks

<table>
<thead>
<tr>
<th>Overview Metrics</th>
<th>SCOR Level 1 Metrics</th>
<th>Actual</th>
<th>Parity</th>
<th>Advantage</th>
<th>Superior</th>
<th>Value from Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Total SCM Management Cost</td>
<td>19%</td>
<td>13%</td>
<td>8%</td>
<td>3%</td>
<td>$30M Indirect Cost</td>
</tr>
<tr>
<td></td>
<td>Warranty Cost</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Value Added Employee Productivity</td>
<td>NA</td>
<td>$156K</td>
<td>$306K</td>
<td>$460K</td>
<td>NA</td>
</tr>
<tr>
<td>Assets</td>
<td>Inventory Days of Supply</td>
<td>119 days</td>
<td>55 days</td>
<td>38 days</td>
<td>22 days</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Cash-to-Cash Cycle Time</td>
<td>196 days</td>
<td>80 days</td>
<td>46 days</td>
<td>28 days</td>
<td>$7 M Capital Charge</td>
</tr>
<tr>
<td></td>
<td>Net Asset Turns (Working Capital)</td>
<td>2.2 turns</td>
<td>8 turns</td>
<td>12 turns</td>
<td>19 turns</td>
<td>NA</td>
</tr>
</tbody>
</table>
Value Chain vs. Level 1 Processes (Value Nets)

Better for manufacturing organizations that are focused on producing well-defined products at the cheapest price.

Better for service organizations that are less concerned with efficiency than with flexibility and frequently combine existing processes to generate unique new services.
Value Chains or Common Processes

**Ground Delivery Value Chain**

1. Establish Contract
2. Pickup Package (Truck)
3. Move to Hub (Truck)
4. Route Package
5. Move to Local Site (Truck)
6. Deliver Package (Truck)

You maximize value to ground delivery customers by tightly integrating all processes in the value chain.

---

**Air Delivery Value Chain**

1. Establish Contract
2. Pickup Package (Truck)
3. Move to Hub (Airplane)
4. Route Package
5. Move to Local Site (Airplane)
6. Deliver Package (Truck)

You improve internal efficiency by standardizing common processes – using common procedures, standard training and the same software applications.
Value Chains vs. Common Processes
ERP Reality: Multiple, Customized ERP Instances
Standardizing Processes to Standardize Instances

[Diagram showing a flowchart with User, Formal, Standardized Process, Activity 1, Activity 2, Activity 3, ERP Module 1, ERP Module 2, ERP Module 3, ERP Database, and instances 1.]
The Future Promise: ERP Modules Managed by BPMS

Diagram showing the flow of activities through BPMS Application, connected to ERP Modules and BPM Database.
Computing Domains

Managers

Processes

Software Applications & Databases

e.g. ERP, Tailored Applications

e.g. Spreadsheets, Email, Groupware, Decision Support Systems

Software for Various Special Projects

Project Planning

Process Modeling

Software Development

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Two Ways of Thinking About BPMS

BPMS I
A BPMS Application created to automate a process

e.g. ERP, Tailored Applications

BPMS II
A BPMS Application created to help a business manager manage a process

e.g. Spreadsheets, Email, Groupware, Decision Support Systems

Processes

Software for Various Special Projects

Project Planning

Process Modeling

Software Management

Infrastructure
BPMN Diagrams

Fulfill Online Book Order

Customer
- Place Order
- Revise Order
- Receive Order

Company Web Portal
- Review Order
- Exception Clerk
- Order System
- Order Fulfillment
- Credit Card Approval Center
- Receive Books
- Close Order
- Shipment
- Order accepted
- Send workorder to shipping
- Order rejected
- order requires special processing
- order incomplete: Ask customer for more information
- Re-Review Order
- Review Approve Charge
- Fill Order
The Tax Return Solution

- **Rule 1**
  
  **If** the received date of the tax return is *less than 6 months in the past*, and

  A claims a payment not received, or

  A credit elect for a tax return from the same taxpayer for a previous year has not been posted,

  **Then** the tax return for a given year must be held.
Modeling Customer Processes

Customer's Customer

Conference Planner's Customer is a Group or Association that wants to do an event or conference

CP works with their customer to define their conference/site requirements

Our Company

How We Interface With Customer

How We Might Make the Customer’s Process Easier

What Customer Does Not Want to Happen

Customer: Conference Planner (CP)

Accept Assignment

Define Conf. Req.

Review Appropriate Sites

Identify 2-3 Appropriate Sites

Set Up Site Visit for Assoc. Team

Negotiate Package w/ Hotel

Sign Contract

CP reads our ad in Conference Planning Magazine

Customer visits our Website and downloads hotel conference information

Qualify prospect. Provide specific information once contacted by CP

Arrange site visit for Association Team And Follow-up

Negotiate package with CP/Association

Sign contract

Interview CPs. Make sure ad and site provides the specific information they look for.

What about providing comparison with leading competitors?

Assign one account person who can negotiate entire contract. The acct rep meets team on visit and it there single contact thereafter

Revise contract to make it clean and to assure it covers all standard concerns?

Doesn’t want bad or confusing information about site.

Doesn’t want Assoc. team put under too much pressure during site visit.

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Agenda

• Yesterday

• Today

• **Tomorrow**
  
  – A continued interest in processes, and, perhaps an integrated process management practice at the heart of the organization
Why Process?

• Process describes how we do work in our organizations

• Change forces organizations to change how they do work

• The near future will be unrelenting change
  – New technologies
  – New customer demands
  – New markets throughout the world
  – Overcapacity, intense global competition, acquisitions
  – Outsourcing and specialization
  – Greening of Process
Product/Technology Lifecycles

UNITS SHIPPED
In billions of 2006 dollars

Each format’s highest selling year is labeled.

- **8-Track**
  - $2.9 (1978)

- **Cassette**
  - $8.5 (1978)

- **LP Album**
  - LP Single

- **CD**
  - CD Single

- **Music Video**
  - Music Video

- **Digital**
  - $1.7 (2006)
  - $0.7 (2004)

- **CDs begin selling in the U.S.**
  - 1983

- **MTV launches.**
  - 1981

- **Sony introduces the Walkman.**
  - 1979

- **1967 First year albums outsell singles.**

- **2001 XM Satellite Radio officially launches nationwide; Apple introduces the iPod.**
What’s Involved in BPM?

- Strategy
- Corporate Performance
- Management
- Process (How Work is Organized)
- People
- Technology
- Facilities/Location
- Suppliers/Partners
- Customer/Markets

Company Culture
Flow of Information

How do we produce value for our customers?

Product
Quality of Output
Trying to Find a Common Language

- Business Managers Organize Around Processes
- Business Analysts (BPx)
- IT Seeks to Reorganize to Emphasize Processes
Some Major Types of Process Problems

The Task Complexity Continuum

- Very Simple, Repetitive Procedures
- Tasks of Middle Complexity that Require More Flexible Responses
- Very Complex, Creative and Unpredictable Activities

At Level 1-2 we are working at such an abstract level that the differences aren’t important

Level of Abstraction

- Value Chains & Level 1 & 2 Processes
- Mid-Level Processes (Levels 3 & 4)
- Specific Activities & Tasks

Use conventional analysis & modeling

Use conventional analysis & modeling. Supplement with emphasis on business rules and decision making

Don’t try to analyze in any detail. Focus on training worksheets and knowledge management

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Another View of the Three Perspectives

**MANAGEMENT**
- Emphasis on performance, on measurement, process ownership, alignment with strategy, with customer satisfaction, shareholders, and competitive advantage
- G. Rummler
- M. Porter
- Hackett
- Kaplan & Norton
- Balanced Scorecard
- OR Frameworks (SCOR)
- M. Hammer
- ReEngineering
- T. Davenport
- Business Rules
- T. Ohno
- J. Womack
- ASQ, ISSSP
- HBS, ISPI, SCC
- FW Taylor
- E. Deming
- J. Juran
- S. Shingo
- T. Ohno
- J. Womack

**QUALITY**
- Emphasis on product quality and consistency, on continuous process improvement, and on creating a culture that cares about process
- Capability Maturity Model
- Lean Six Sigma
- IDS Scheer
- FW Taylor
- E. Deming
- J. Juran
- S. Shingo
- T. Ohno
- J. Womack
- ASQ, ISSSP

**BPM**
- Emphasis on using computer systems to automate processes, on reengineering to make the best use of new computing techniques and on analytics
- ReEngineering
- IDS Scheer
- WfMC, IIBA, OMG, BPMI, Gartner
- Business Rules
- FW Taylor
- E. Deming
- J. Juran
- S. Shingo
- T. Ohno
- J. Womack
- ASQ, ISSSP
Slides Available Later This Week

- Go to www.bptrends.com

- Search for BPM2008HarmonKeynote