Learning Objectives

At the end of this module, you will be able to:

• Use a case study to practice applying concepts
• Apply lean thinking and analysis tools to an office process
• Sketch a future state value stream map
• Recall the impact that variability has on process performance
Rockwell Collins Background

• Leading provider of commercial and military avionics systems and information technology

• Founded in 1933 as Collins Radio Company
  • Acquired by Rockwell International in 1973
  • Spun-off in 2001 as an independent, publicly traded company

• Today, more than 20,000 employees at over 60 locations in 27 countries

• 1998 - “Lean Electronics” launched by CEO Clay Jones as RC’s operating philosophy

Courtesy of Rockwell Collins. Used with permission.
Rockwell Financial Performance

Financial Performance of Selected Aerospace Companies: 2005 to 2009

Notes
(1) Additional factors beyond Lean Electronics contribute to Rockwell Collins superior sector performance
(2) Financial performance for firms can include non-aerospace business units
Accounts Payable Overview

- Switched to invoice-less “Pay From Receipt” or PFR system in 1993
- Implemented in SAP corporate database system in 1999
  - Purchasing Department issues Purchase Order (PO) into SAP
  - Receiving Department enters data into SAP upon receipt of shipment
  - Vendor payment triggered when PO and receipt reconciled
  - Vendor charges shipping to RC account
  - RC pays taxes
  - No invoice needed from vendor
- About 80% of transactions currently on PFR
- Processing the remaining invoices is a problem
Quarterly AP Metric Summary

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<tr>
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<th>1st Q</th>
<th>2nd Q</th>
<th>3rd Q</th>
<th>4th Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non PFR Invoice Volume (nearest 100)</td>
<td>13,700</td>
<td>14,500</td>
<td>15,200</td>
<td>15,600</td>
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<tr>
<td>Average Cycle Time (weeks)</td>
<td>5.8</td>
<td>6.1</td>
<td>6.3</td>
<td>6.4</td>
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<tr>
<td>Percent Past Due</td>
<td>8%</td>
<td>10%</td>
<td>11%</td>
<td>12%</td>
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Increasing Volume
Lengthening Cycle Time
Growing Number of Past Due Payments to Suppliers
Process Improvement Flow

• AP has developed a VSM for their process
  • It is in your folders

• Value stream analysis (VSA) needs to be done to prepare for an upcoming AP Rapid Process Improvement (RPI) event
  • You will do this tonight and discuss tomorrow.

• RPI event will identify improvement strategies and develop a future state VSM
  • We will do this in class tomorrow

• An implementation plan for the new VSM will be worked out during Lean Implementation module
Rapid Process Improvement Workshop (RPIW)

- Focused on a specific improvement opportunity
- Chartered by a sponsor who gives improvement goals and organizational constraints, and provides resources
- Lean coaches & facilitators provided
- Event is up to a week in duration
- One to three months preplanning
- Involves all important stakeholders
- Data driven process
- Ends with implementation plan
- Implemented outcomes measured

Doing in 1 week what otherwise takes months or years
Homework

• Read the case study in your folder
• Verify that the provided Value Stream Map accurately reflects the data in the case study
• Work out the answers to Questions 1-4
• Come to class prepared to discuss the case study and perform further analysis.