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Library Technical Services Process Improvement Based on LEAN

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Library Technical Services Process Improvement
Based on LEAN

American Library Association
Annual Convention - Anaheim, CA
Saturday, June 23rd, 2012
Richard Zwiercan, Interlibrary Loan Operations Supervisor

Cyrus Ford, Special Formats Catalog Librarian

Greg Voelker, Stacks Supervisor
Introduction

*Lean Thinking* ...is to see and eliminate *Muda* ‘waste’ –which is essentially any activity in which absorbs resources but creates no value.

8 Types of Waste

- Defects
- Overproduction
- Waiting
- Non-Utilized People
- Transportation
- Inventory
- Motion
- Extra Processing
How do we eliminate those *wastes*?
Five Principles of Lean

1. Value – specified by the customer/end user
2. Value Stream – value adding activities
3. Flow – sequence of actions
4. Pull – just in time
5. Perfection – continuous improvement
1. Value

Specified by the customer: where meaning is express for a specific good or service, while delivering highest of quality at the lowest possible cost.

2. Value Stream (VS)

Identify a set of activities required to produce a good/service from conception to delivery that creates ‘specified value’ and eliminates waste.
Rush/Replacement & Firm Orders

Customers:

• Subject Liaisons (librarians) & library users (i.e. faculty, students, staff)

Good/Service:

• Rush/Replacement Orders (2-4 days)
• Firm Order (5-10 days)
• 100% Complete/Accurate
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Value Stream – Current State

VS Manager
Value Stream – Current State

Errors

GOBI
- Retrieve/Make Corrections
- Submit Orders

GOBI
Review selection cart make corrections

GOBI
process GO-BI orders (check 3-4 x daily)

30min-48hrs
clarification errors:
- fund codes
- sub acct.

2min (zero errors)
5min (minor error)

2min

1min

Millennium
Check Duplicates
Added Titles
(liaisons will note)

Error Rate:
20% error free
70% minor errors
10% clarification errors
Value Stream – Current State

Shipping

GOBI Shipments

GOBI Shipping:
- Rush 4-5 Days (10-15, 2-DAY AIR)
- Firm 1.5 Months (Built into contract)

Amazon Prime Member Shipping:
- Rush 2 Days (50, 2-DAY AIR)

Campus Receiving
- Receives, sorts, and delivers packages to Library
  - 10 min - 24 hrs

Library Receiving
- Sorts and Delivers Packages to Acquisitions
  - 5 min

Acquisitions
- Unpacks, Verifies Items with Invoice
  - 10 min
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Value Stream – Current State

Lead Time/Processing Time

Information Flow

Production
Lead Time = 2-4 days
Process Time = 13min (zero errors)
16min (minor errors)

GOBI
- View received rec. for POS and status updates

30min-24hrs

3min

5-60 Brief Bib(s)

30min-48hrs

2hrs

2min

2min (zero errors)
5min (minor error)

GOBI
- Retrieve/Make Corrections - Submit Orders

GOBI
- Review selection cart make corrections

GOBI process GO-B orders (check 3-4 x daily)

Millennium
- FTP Brief Bib/POs from GOBI, assign POS
- FTP Bibs/POs back to GOBI

24hrs

24hrs

Material Flow

Campus Receiving
- Receives, sorts, and delivers packages to Library

10min-15hrs

1hr

5min

Library Receiving
- Sorts and delivers packages to Acquisitions

10min

1min

Acquisitions
- Unpacks andverify items with invoice

1min

10min

1min

Acquisitions
- Millennium - Mark receive date

1hr-
2-3 days In

1sec

1sec

Acquisitions
- 4min bib rec - highlight instructions: exp. holds, replacements, etc.

3min-
1 sec

3min

Acquisitions
- Cataloging (Filmex)
- completes cataloging rec.

2min

0.2min

3min (speed copy)
3min (full copy)

Acquisitions
- Label Cart - add labels - stamp cover

1sec

2hrs

1min

Acquisitions
- Deliver books to Circulation

2hrs

7hrs

Circulation
- Add holds
- processes holds
- Notify customer

3hrs

Total Production
- Lead Time = 13.3 days (max)
- 1.26 months (Firm)

Total Process Time = 45min (zero errors)
1.2hrs (minor errors)
Value Stream – Current State

Do we create value for the customer?

Value Desired

Customer(s)

- Liaison Librarians/
  Branch Heads
- Faculty
- Library Users
  - Monographs
  - Rush/Replacements 2-4 days
  - Firm Orders 5-10 days
  - 100% complete/accurate

Value Stream: Current State – Value Creating?

Total Production
Lead Time =
13.3 days (Rush)
1.75 months (Firm)

Total Process Time =
45min (zero errors)
1.2hrs (minor errors)
Next Step: Establishing a *Future State*
3. FLOW

All steps required proceed through the value stream in a continuous flow without: backflow, scrap, and/or stoppages.

Media Process in BMS

- Process Redesign
- Flowchart
- Travelers
Process Redesign


**Figure 6.1** Steps One and Two, Process Redesign

- **Phase 1: Getting started**
  1. Introduction to process redesign
  2. Process team formation

- **Phase 2: Process analysis**
  3. “As-is” flowchart
  4. Customer interviews
  5. Benchmarking and best practices

- **Phase 3: Process redesign**
  6. First-cut redesign
  7. Review by senior management and testing
  8. Final design, share with staff and customers
  9. Implement the redesign

- **Phase 4: Continuous improvement**
  10. Installation of metrics and continuous improvement
As-Is Flowchart: Media Process in BMS
<table>
<thead>
<tr>
<th>Activity</th>
<th>Started Work Date</th>
<th>Time worked on the Item</th>
<th>Sent Out Date</th>
<th>Initials</th>
<th>Comments</th>
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"New" Flowchart: Media Process in BMS

1. Receive in BMS
2. Cyrus pickup from cart in BMS; barcode as necessary, and cataloged
3. Students capture call number and hub labels
4. Deliver to Media or place in mail bins for delivery to branches
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Flowchart: Comparison

"As-Is" Flowchart of Media Process in BMS

1. Receive in BMS
2. Students barcode, property stamp
3. Place on Media shelves for cataloging
4. Media cataloged
5. Students capture call number and hub labels
6. Deliver to Media or place in mail bins for delivery to branches

"New" Flowchart of Media Process in BMS

1. Receive in BMS
2. Cyrus pickup from cart in BMS; barcode as necessary, and cataloged
3. Students capture call number and hub labels
4. Deliver to Media or place in mail bins for delivery to branches
4. **PULL**

Tasks are taken by employees when they are ready for more work.

**Eliminate Scheduled Tasks**

- Prioritized list of daily tasks
- Next person does next task
- Reduce inventory/waiting
5. PERFECTION

All activities along a value stream create value.

Shelving Accuracy Tracking

- Main purpose of Stacks
- How do we add value for users?
Establish the goal.

Design method to track data.

Phase-in new procedures.
### Shelving Accuracies

**Goal is 100%**

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DATA FOR INITIAL AS-IS STATE

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Assess first round of data

Why was goal not attained?

Implement new idea:

- Incorporate Shelf-reading
Assess second round of data

Why was goal not attained?

Implement new ideas:

• Better training

• Reduce Batch Size
RESULTS AFTER SECOND REVISION

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Monthly
Cumulative

June 23, 2012          ALA / ALCTS – Anaheim          29-G
“...If I find 10,000 ways something won't work, I haven't failed. I am not discouraged, because every wrong attempt discarded is often a step forward...”

Thomas A. Edison
QUESTIONS?
REFERENCES


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University Libraries

SURVEY LINK