August 28th, 2019
Presenter: John J. Huber

Lean Transformation with a Purpose

J. Huber & Associates
Library Consulting Services
John J. Huber

• Background
  • Industrial Engineering and Management

• President of J. Huber & Associates, formed in 1986.

• Client Focus
  • Service and Cost Transformation with a Purpose.
  • Change Management with a Purpose.

• 20 years supporting manufacturing/distribution operations.
Introductions- What lies behind the walls of a Public Library?
Introductions

-Spaghetti Dinner-
Introductions
Why did you choose the library as a profession?

Did manage budgets or increase circulation come to mind?
The Public Library Challenge

How do you pursue service improvement in an environment of:

• Budgets Constraints?
• Increased Community Need?
• World Beating Competition?
• Tough Change Resistance?
Public Libraries Competition

The BANG! Group

BARNES & NOBLE

amazon prime

NETFLIX

Google
Public Libraries Competition

Harry Potter and the Sorcerer's Stone  Dec 8, 2015 | Kindle eBook
by J.K. Rowling and Mary GrandPré
$0.00  prime
Prime members read for free.

From Sand and Ash  Dec 1, 2016 | Kindle eBook
by Amy Harmon
$0.00  prime
Prime members read for free.
The Purpose-Based Library - Success

CEO of Library World

Libraries

Google

Digital Interaction

Information Providers

Digital Interaction

Media Distributors

Amazon

Competitive Differentiation
Success beyond survival demands a different path.

A Mission is a direction or path to guide, while a purpose is the passion that you have within.
Success beyond survival demands a different path.

A Mission is something you are told to do.
A purpose is something you can’t help but do.
Success beyond survival demands a different path.

Your common purpose is what differentiates you from your competitors.
Success beyond survival demands a different path.

Pikes Peak Library Districts
Mission Statement

Seek
Engage
Transform
Success beyond survival demands a different path.

City of Anchorage

• Eradicate homelessness
• Improve the health of the community
• Strengthen Anchorage neighborhoods
Vision
Your Common Purpose

Seek
Engage
Transform

“But what does this mean?”

“What role does the library play?”

“Are you successful in driving your purpose?”
Question?

But what is a community transformed?

Without defining a healthy and transformed community, we will never create effective change.
Definition of a transformed human being.
Vision
Huber’s Community Hierarchy of Needs ™

Definition of a transformed community.
The U.S. will lose 38 percent of existing jobs to automation.

Digital Divide?

By 2018, only 10 percent of jobs will be open to those who fail to complete high school. Only 28 percent will be open to those with only a high school diploma. And 61 percent of American employers today say it is difficult to find qualified workers to fill vacancies.

$110 million budget cut for public education.

22.7% Poverty

140,000 adults in Oklahoma County have limited literacy skills.

27% HS students dropout.

6,044 to 7,555 homeless

http://oklahomawatch.org/2016/02/15/graduation-rates-by-school-district/


http://homelessalliance.org/?page_id=10


http://oklahomawatch.org/2016/02/15/graduation-rates-by-school-district/

Case Study – Reference Group
Huber’s Community Hierarchy of Needs™

A transformed community.

Community Transformation Purpose Based 43%

Fulfillment Needs

Psychological Needs

Basic Needs

Sustainability

A transformed community.

<table>
<thead>
<tr>
<th>Category</th>
<th>% of Total</th>
<th>Cum % of Total</th>
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<tbody>
<tr>
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<td>12%</td>
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<tr>
<td>Reference Support Rooms, holds, etc</td>
<td>10%</td>
<td>22%</td>
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<tr>
<td>Collection Development- Weeding</td>
<td>7%</td>
<td>29%</td>
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<tr>
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<td>Website</td>
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<td>56%</td>
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<tr>
<td>Additional Tasks not Listed Above:</td>
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</table>
20% of 3rd Grade ‘At Risk’ readers will not graduate from High School.
- Value of a High School Diploma: $10,000 per year

60% of High School dropouts will end up in jail
- Cost incarceration: $30,000 per year.
Example Library Reading Program

Value Based Outcomes

• 100 ‘At Risk’ 3rd Graders
• 50 transformed from ‘At Risk’ to “Good Readers” by program.

------------------------------------------------------------------------------

• 50 Times 20% (drop out rate) = 10 Added High School Graduates: Value $100,000/yr.
• 10 Times 60% incarceration rate = 6 Students avoiding prison: Value: $180,000/ yr.

Value of 3rd grade reading program to community: $280,000 per year
Vision
Eliminate wasteful tasks in your Service Delivery Chains and reinvest that time into community transformation.
Today’s Theme: How to create a Lean Transformation and to do it with a purpose in mind.
Lean Transformation

Five Key Success Factors

• Service Delivery Chains Not Silos
• Embrace Lean
• Replace Change Resistance with Change Ownership
• Improve Team Communication Skills
• Realign Toward Your Common Purpose
Success Factor One

See Service Delivery Chains not Silos
Service Delivery Chains/Not Silos

‘Silo’ Customer Service

Physically organized Silos
Optimized the Silo
Created Silo Metrics
Created Walls of Protection

ILS designed for Silos

Information Tech.
Reader Services
Technical Services
Computer Services
Reference
Circulation
Youth Services
Service Delivery Chains/Not Silos

‘Silo’ Customer Service

Selectors | Unpacking | Receiving | Cataloging | Information Systems | Processing | Sorting | Delivery | Branches

Physically organized Silos | Optimized the Silo | Created Silo Metrics | Created Walls of Protection

ILS designed for Silos
Performance should be defined by speed of flow and quality of service from the customer’s perspective.

Customer Service should be defined by a series of customer service process steps.
Performance should be defined by speed of flow and quality of service from the customer’s perspective.

Customer Service should be defined by a series of customer service process steps.

Customer
### Case Study - Carrollton – Targeted Service Delivery Chains

<table>
<thead>
<tr>
<th>Service Delivery Chain</th>
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<tbody>
<tr>
<td>Customer Holds SDC</td>
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<tr>
<td>Customer Service Desk SDC</td>
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<tr>
<td>New Book SDC</td>
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<tr>
<td>Self Check SDC</td>
</tr>
<tr>
<td>Security SDC</td>
</tr>
<tr>
<td>Staffing/Scheduling SDC</td>
</tr>
<tr>
<td>Customer Notification SDC</td>
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<td>Materials Returns Check In SDC</td>
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<tr>
<td>Lost and Paid SDC</td>
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<tr>
<td>Fax SDC</td>
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<tr>
<td>Easy Books SDC</td>
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<td>Scanning and Printing SDC</td>
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<tr>
<td>Newspaper SDC</td>
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<td>Computer Class SDC</td>
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<table>
<thead>
<tr>
<th>Service Delivery Chain</th>
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</thead>
<tbody>
<tr>
<td>Signs and Verbiage SDC</td>
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<tr>
<td>Grant Acquisition SDC</td>
</tr>
<tr>
<td>Computer Assistance SDC</td>
</tr>
<tr>
<td>Circulation SDC</td>
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<tr>
<td>Weeding/Disposal of Withdrawn SDC</td>
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<td>Phone SDC</td>
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<td>Donations SDC</td>
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<tr>
<td>Volunteer SDC</td>
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<td>Customer and Staff emergency SDC</td>
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<td>New Books In Transit SDC</td>
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<tr>
<td>Story time SDC</td>
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<td>eBook SDC</td>
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<td>Coffee Shop SDC</td>
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<tr>
<td>Teen Services SDC</td>
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<tr>
<td>Adult Programming SDC</td>
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Carrollton Case Study presented in the book: The Purposed Based Library: Your path to survival, success and growth.
Cross Functional Teams

Top Down Service Driven
Vision/Goals

Leadership Team

Project Manager

Functional Support

Team Facilitator

Lean Consultant

Cross-Functional Team

Bottom Up Ownership

Service Metrics Driven
High Spot Review – Cross Functional Team

Leadership Team

- Paul Brennan
  Collections Director

Lean Consultant
John Huber

Selection

Acquisitions

Cataloging

Processing

Circulation

Returns/Shelving

Holds

Reference

Unpack/Receiving

Data Analyst

Facilities Manager
  Ad Hoc
Phase II – Staff Responsibilities

Cross Functional Team Responsibility

- Map/Flowchart Service Delivery Chains
- Participate in Cross Functional Team Meetings
- Collect Analytical Data
- Keep informed through Smartsheet/Team Reports
- Look for improvement Opportunities/share
- Try ideas out
- Assist in Metrics Collection
- Design New Service Delivery Chain

See from a Customer’s View

Keep informed on metric progress
Lean Methodology - Summary

**Start with SDC's**
- New Book Delivery
- Customer Hold Delivery
- Research Request Delivery
- Outreach Delivery
- Digital Media Delivery
- Gift Book Receipt and Delivery

**Top Down Organization**

**Launch SDC Cross Functional Teams**

**Define Service Metrics**

**Focus on Speed and Flow**
Success Factor Two

Embrace Lean
Organizational Lean Transformation

TOYOTA

Toyota Production System
1970’s

1980’s

1990

2000’s

Lean Library Management
Budgets

Common Management Thinking

Customer Service
The Public Library Challenge

Community Needs

Customer Service
Library Lean Thinking

Customer service

Excellent

Quality

Poor

Cost

[Image of dollar bills arranged like a graph]
Understanding Lean

The River Lean:
smooth, fast flowing water.

No twist and turns, no hidden rocks,
no stagnant water, no flooding.
The Snake River

Twists and Turns (Poor Flow)

Hidden Rocks (imbalances)

Stagnant Water (staging)

Flooding (peak loads)
We need to transform the Snake River into the River Lean
Service Gap

What prevents you from providing outstanding service to your customers?
Library Lean Transformation Strategy

- Simplify
- Automate
- Integrate
- Realign/Repurpose
Lean Methodology - Summary

Our Lean Tool Box

- 5 S
- Balloon Diagram
- First Touch
- Flow Diagram
- Flow Chart/Value Stream Mapping
- Rabbits And Turtles
- Service Delivery Chains and Performance Measures
- Sustain
- Time Studies
- ‘U’ Shaped Flow
- Speed
- Lean Library
- First Touch
- Rule
- Peak Load Mgmt
- Flow Chart
- Value Stream Mapping
- Dashboard Metrics
- Methodology
- Control
- Define
- Improve
- Measure
- Analyze
- Systemize
- Sort
- Straighten
- Shine
- Video
Holds SDC Value Stream Mapping

Case Study

First Time Find Rate?

Missing Policy?

First Touch Rule Eliminates for Incoming Holds

Timing With Delivery?

Timing of Report

Shelving Turnaround Time?

Hold Requested

Staff prints Morning Holds Report, Searches for Item

Item Found & Trapped?

Yes

Hold for HPL Pickup?

Yes

Staff places trapped Hold in appropriate outgoing stack (Marion, Ladd, Main)

No

Staff places items on Hold shelf. Multiple items for one patron are banded together

Hold slip attached to items

Totes unpacked and sorted

Transit driver arrives, unloads totes from other libraries, loads outbound totes from HPL (twice daily)

Stacks are placed in appropriate tote for transit (Marion, Ladd, or Main)

Patron picks up items

Hold Shelf Presentation?

Items placed on carts for shelving
New Adult and Juvenile DVDs – Case Study

- **Materials** sorted and delivered to locations.
  - **Clerk** takes holds to Sort Center, when truck is full and at end of day.
  - **Materials** sorted and delivered to locations.

**Selector chooses items**
- **Add to cart**
- **Add distribution**
- **Add fund**

**Delivers scratch order to Acq.**
- **Prints scratch order**
- **Add distribution**
- **Add fund**

**Send cart to Acquisitions weekly.**
- **Print electronic orders**
- **Pull pilot copy or copies off truck**
- **Choose profile**
- **Search OCLC & Sierra by ISBN/EAN/UPC**
  - If no ISBN results, try alternate searching
  - If already in Sierra
    - Find acceptable bib record
  - If level 3 or no record, fill out orange slip and refer to librarian for original cataloging.
- **Edit OCLC record if necessary** (minimal descriptive cataloging, subject analysis, classification, authority control.)
  - Refer to Librarian for additional evaluation if necessary.
- **Replace master record if necessary.**
- **Make local edits to OCLC record** (599, 998 notes, etc.)
  - **Assign category** (Comedy, Action, etc) or Dewey number & modified cutter
  - Check allmovie.com or imdb.com if unsure of category
- **Add bib number from on order record to OCLC record**
- **Validate, add holdings, export, add initials**
- **Search Sierra for updated record**
- **Shift to High Demand Truck if above holds ratio**
- **Remove yellow streamer if past street date**
- **Fill out and insert green slip (processing notes) if necessary**
  - **Date truck**
  - **Moves truck to Cataloger Bay: HD area or regular.**
- **Clerks deliver paperwork to Acquisitions.**
  - **Edits and imports full OCLC record.**
  - **Moves truck to Cataloger Bay: HD area or regular.**
  - **Invoice matching items on invoice to order records in Sierra.**
- **Pulls pilot copy or copies off truck.**
- **Choose profile.**
- **Search OCLC & Sierra by ISBN/EAN/UPC**
  - If no ISBN results, try alternate searching
  - If already in Sierra
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**Evaluate what to do based on orange slip (# of holds, date, upgrade, etc.)**
- **Search OCLC**
  - If already upgraded, give back to copy cataloger whose initials are on the orange slip
  - If another record can be used, make changes—copy
  - **Upgrade record**
  - If no OCLC record, create new by deriving from existing record or using new workform
    - If necessary consult outside sources such as Amazon, selector, etc. For a summary note, subject, classification, etc.
  - **Add local headings call #, category, notes**
  - **Add Sierra on order bib # to tell OCLC export what on order record to overlay**
  - **Add holdings to OCLC, export to Sierra, add initials, validate, save to local file**
  - **Place on anchor truck**
  - **Date truck and deliver to clerk bay by end of day**

- **Send to appropriate Selector.**
  - **Print title information from Midwest, print title**
    - **Other vendors**
      - **Create cart, if available.**
      - **Process oldest to newest**
      - **Suggestions via Sierra, email, paper.**
      - **Process oldest to newest – all formats.**
      - **Check Sierra – if new, then check Midwest.**
      - **Create cart, if available. Send to appropriate Selector.**
      - **If not available from Midwest, print title information from Amazon, OPB, or other source and give to Selector.**

- **Other vendors**
  - **Pulls pilot copy or copies off truck.**
  - **Choose profile.**
  - **Search OCLC & Sierra by ISBN/EAN/UPC**
    - If no ISBN results, try alternate searching
    - If already in Sierra
      - Find acceptable bib record
    - If level 3 or no record, fill out orange slip and refer to librarian for original cataloging.
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**Materials** sorted and delivered to locations.
Delivery Service Chain – Unpacking and Receiving Items

Step One - UPS Deliveries boxes between 2-4pm

Step Two - Circ. staff arrives at 4:00 to unpack boxes

Step Three – Youth Cart dropped on 2nd floor

Step Four - Circ. staff breaks down boxes for recycle bin

Step Five - Circ. staff takes carts down to AMH

Step Six – Check in and Sort Items

Step Seven – Items delivered to stacks of holds shelf

Flow Batching
Delivery Service Chain – Flowcharts / Value Stream Mapping

Acquisitions Service Chain – Customer Requests

1. Patron makes a request.
2. Collector fills out Request to Purchase form online.
3. Collector researches to see if request is suitable for the collection.
   - Collector checks for dupes (iMatch), applies grid, specifies cutters (if necessary), prices and downloads.
   - When cart is ready to order, collector makes it public and notifies HOCD (Head of Develop.).
5. Collector places item appropriate cart (new, not new, holds, maintenance, etc.).
6. Collector checks for dupes (iMatch), applies grid, specifies cutters (if necessary), prices and downloads.
7. HOCD applies and checks grids AS (Adult Services) downloads, then merges lists.
8. HOCD of YS (Youth Services) changes cart name.
9. HOCD of YS prices the order and updates spreadsheets.
10. HOCD emails Cataloger when lists are ready to order.
**Strategy**

- First Touch Holds Label
  - Combines Pull List and Holds Label into sheet sticky labels.
  - Eliminates Rubber Bands
  - Streamlines Receipts

**Outcome**

- Reduces staff clerical check in time.
- Enhances power of RFID
- Improves professionalism of Hold Shelf
- Estimated Savings $ xxxxxxx /yr
- Payback less than a year
We need to transform the Snake River into the River Lean

‘U’ Shaped Flow
The Snake River?
Twists and Turns?
Staging?
Batching?
Peak Loads?
Imbalances?
Hidden Inefficiencies/ Delays?

We need to transform the Snake River into the River Lean
All Flows

Complicated flow/Impossible to manage.

Outbound Staging

Stage Overflow

1 Comes in Tubs

Process

Staged on Shelf

Cataloging

Move to Shelve Date Order

Case Study – Product Flow
People Flow Centric vs. Process Flow Centric

People Centric Flow
Lean Tools - Rabbits Running

The Solution

Process Flow / No Staging
Create a Simple ‘U’ Shape Flow

No shelves

Carts only in ‘U’ Line that are being worked on

Internal Skills applied PreBox Quality and to Post Box Turtles

Rabbits in and out in a day

Visual Supervision

No efficiency reports required

Inventory Control becomes a sampling process

Service Metric is speed of Delivery and # of unpacked boxes
The larger the batches the higher the efficiency?
Waste–Batching

Small Batches for Lead-time

Step One
One Hour

Step Two
One Hour

Lead-time – One Hour!
How you proactively manage and respond to peak loads controls your overall service performance.
New Item Service Delivery Chain
Design Considerations

Selection
New Book Service Delivery Chain
Project Objectives

• Manage peak loads
  Streamline and eliminate batching in the selection process.
  • Eliminate current practice of stopping all orders in May
  • Streamline shifting and hidden backlogs such as weeding/de-selection and cataloging projects.
  • Manage Orders more proactively
  • Improve coordination Collection Management, Fiscal Unit and Supporting Services
  • Prevent accumulating backlogs in Peak Load event.
Conclusion: There is a direct correlation between how orders are selected/released to the volumes of copies received.
New Item Service Delivery Chain
Design Considerations

- Unpacking
  - Leadtime

- Receiving
  - Leadtime

- Staging
  - Leadtime

- Cataloging
  - Leadtime

- Staging
  - Leadtime

- Processing
  - Leadtime

- Sorting
  - Leadtime

- Delivery
  - Twice a Day
  - Leadtime

- Delivery
  - Leadtime

- Leadtime
High Spot Review – Cross Functional Team

New item Service Delivery Chains

What Do Your Customers Expect from The New Item SDC?
Lean Tools

80/20 Rule

Examples of 80/20 Rule

Balloon Diagram
Lean Tools

80/20 Rule

Examples of 80/20 Rule

- 80% of Complaints 20% of customers
- 80% of Problems 20% of items
- 80% of Clerical time 20% of Task
- 80% of request 20% of customers

Small Group Brainstorming
Success Factor Three

Replace Change Resistance with Change Ownership
What I hear wherever I go:

• If it ain’t broke don’t fix it.
• I have done it this way for thirty years.
• We tried that before, it did not work.
• Sure, change things, but they will just go back to the way they were.
• Management talks a good game, but they will not support it.
• It is just one more program that will fail.
• Our customers seem happy, why change?
• We have improved already, why more?
Change Resistance

Why Do People/Organizations Resist Change?

They Fear The UNKNOWN!
Change Resistance

When the winds of change come, some seek shelter, others build windmills.
Those most affected by the change should be those who actually create the change. I call this Change Ownership.
To create a successful culture of change we must create change ownership by:

• align your measurements (and therefore your priorities) toward what actually motivates your staff to come to work everyday – service.

• eliminating the fear of change by engaging and empowering those most affected by the change.

• drive your improvement efforts with these service improvements metrics that cross the boundaries of departmental staffing and budgets.
Success Factor Four

Improve Team Communication Skills
Improve Communication Skills

Desert Survival Game
Large Family Communications
Communication Skills

**Open Ended Questions/Avoid Leading Statements**
- Affirm and Encourage
- Repeat What Was Said
- Silence

**Brainstorming**
- Piggyback/ build on other ideas
- Encourage everyone to participate
- Allow data to drive judgments

**Key Success Factors**
- Leave pride at the door
- Leave fear of change at the door
- Laugh
- Seek Ownership in the group changes
Success Factor Five

Realign Toward Your Common Purpose
Additional Lean Tools

Embrace Lean
Lean Methodology - Summary
Huber’s Lean Tool Box

- 5S
- Sustain
- Sort
- Straighten
- Systemize

- Speed

- ‘U’ Shaped Flow

- Balloon Diagram

- Sustain
- Shine
- First Touch

- Control
- Define
- Methodology
- Improve
- Analyze
- Measure

- Rabbits And Turtles

- Dashboard Metrics

- Flow Chart/Value Stream Mapping

- Flow Diagram

- Service Delivery Chains and Performance Measures

- Time Studies

- Peak Load Mgmt

- Bee Swarming

- Lean Library
- First Touch
- Rule

- rabbits and turtles

- service delivery chains and performance measures

- flow diagram

- flow chart/value stream mapping

- flow chart/value stream mapping

- control
- define
- methodology
- improve
- analyze
- measure

- Rabbits And Turtles
## Transaction Costs Analysis

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<th>MB</th>
<th>DD</th>
<th>TG</th>
<th>MG</th>
<th>ER</th>
<th>JT</th>
<th>GI</th>
<th>PO</th>
<th>EH</th>
<th>RZ</th>
<th>FTE</th>
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Rabbits and Turtles
Lean Tools - Rabbits Running

Service and Speed Focus

Rabbits

Caged Rabbits

Turbo Turtles

Turbo Turtles
### Vendor Outsourcing

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<th>Category</th>
<th>Materials Ordered</th>
<th>Total Items (FY19)</th>
<th>Percentage of total volume (FY19)</th>
<th>Receiving</th>
<th>Invoicing</th>
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<th>Bib. Record</th>
<th>RFID</th>
<th>Spine</th>
<th>Jacket</th>
<th>Barcode</th>
<th>Property Stamp</th>
<th>Import</th>
<th>Case Repack</th>
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</table>

*JCPL is suspending all processing services with Baker and Taylor after September 2019 due to on-going processing & service issues
†Midwest tape provides only limited processing for audiobooks due to an increase in costs per item.
New Book Service Delivery Chains
Pre-Box versus Post Box

Pre-Box

Service Lead time

Post-Box
New Book Service Delivery Chains

Pre-Box versus Post Box
Scheduling / Routing

- Duplicates (30-40%)

- Unpack, receive, item record editing (bar code, print labels, etc.), physical processing
- After Shipment - Overlay/quick bib check by copy cataloger

Use Vendor Title Record
Update Record After Shipment
If needed

Majority requires Copy Cataloging,
Some may require Original Cataloging
- Hot author fiction
- Feature film DVD
- Rush items
- New Editions
- Music CDs
- Audiobook
- Fiction
- Children’s Books
- Popular nonfiction
- Scores
- Classical CDs
- Other DVDs (children’s, TV series, nonfiction adult, etc)
- Projects (non-purchase/reclassification – archl drawings, music reclass, biography reclass, etc.)
- Unpack, receive, overlay/copy catalog bib, item record editing (bar code, print labels, etc.), physical processing

Requires Original Cataloging
- Genealogy
- Rare/Local
- Serials
- Government documents
- Graphic novels, manga, anime
- Foreign fiction

- Unpack, receive, [search/verify record/overlay], original catalog, item record editing (bar code, print labels, etc.), physical processing
The Solution

No shelves

Carts only in ‘U’ Line that are being worked on

Internal Skills applied PreBox Quality and to Post Box Turtles

Rabbits in and out in a day

Visual Supervision

No efficiency reports required

Inventory Control becomes a sampling process

Service Metric is speed of Delivery and # of unpacked boxes

Lean Tools - Rabbits Running

Process Flow / No Staging
Create a Simple ‘U’ Shape Flow

Unpack
Sort
Supervisor

Unpack
Sort
Supervisor
Case Study – Typical Results

- 50-90% improvement in service delivery time.
- 50-90% reduction in ergonomic issues.
- 25-40% reduction in clerical tasks required.
- 50-90% reduction in material travel distance.
- 20-40% reduction in space requirements.
- 10-30% reduction in errors.
<table>
<thead>
<tr>
<th>Date Documented</th>
<th>Amount or List (Broken Up Into Parts)</th>
<th>Amount Found</th>
<th>Find Rate</th>
<th>Find Rate Percentage</th>
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**First Time Fill Rate**

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**Three Search Fill Rate**
Use Your Lean Library Toolbox

Case study: New Book and Media Delivery Turnaround

90% Improvement