Black Belt Training

Day 3 – Solve It!
Move Seats 😊
Recap: What We’ve Learned in Day 1 and Day 2

See IT!
1. Frame the problem → Why
2. Define it with metrics → MEAT
3. Set a goal for improvement
4. Understand the gap
We are here
Create solutions by thinking about:

- **YOU** *(improve your flow)*
- **ERRORS** *(prevent mistakes)*
- **YOUR CUSTOMER** *(make things easy, attractive, social, and timely)*
Continuous Flow

(Workbook pg. 42-44)
Paperwork Exercise

- Processing four applications for food assistance through Denver Human Services
- Each group has 4-5 workers (instructions provided), and works in batches of 4, 2, or 1
- Goal: Quickly and accurately process the applications

Create Job # & ID
County

Pick # living in home, compute total income

Verify if anyone receives public assistance and review qual ques

Determine eligibility
Paperwork Game Discussion

• What happened? How did this differ from what you expected?
• How did it feel to wait?
• What wastes did you see?
• Did it feel like you worked on 4, or did it feel like you worked on more or less?
• How could this be improved?
**Batching vs. One-Piece Flow**

**Batching:**
- Completing multiple units of work before moving it on to the next step

**One-Piece Flow:**
- Completing a single unit of work before moving it on to the next step
WIP: Work in Progress

- WIP is any work that is waiting to be completed

- WIP requires storage for the material or information, and can have negative impacts on productivity, quality, and customer satisfaction

- Examples:
  - Piles of applications in inboxes
  - Clients waiting to be called for the next step
  - Groceries at a checkout counter
Rework – The “Hidden Factory”
Rolling First-Time Yield

- Percent Complete & Accurate:
  - Process step is completed without needing corrections or requesting missing information

- Rolling First-Time Yield:
  - Entire process is completed without needing to be fixed or reworked in some way
  - This is the product of the Percent Complete and Accurate for each process step, expressed as a percentage

- Example: Processing Claims

<table>
<thead>
<tr>
<th>Step</th>
<th>Percent Complete</th>
<th>Claims Processed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive claim</td>
<td>90%</td>
<td>900 claims</td>
</tr>
<tr>
<td>Verify claim</td>
<td>90%</td>
<td>810 claims</td>
</tr>
<tr>
<td>Supervisor review</td>
<td>90%</td>
<td>729 claims</td>
</tr>
<tr>
<td>Payment</td>
<td>90%</td>
<td>656 claims</td>
</tr>
<tr>
<td>Mail claim</td>
<td>90%</td>
<td>590 claims</td>
</tr>
</tbody>
</table>

590 claims done with no rework
Video: DHS Flow Cells
Mistake Proofing

(Workbook pg. 45-46)
Mistake Proofing

- Mistake-proofing can prevent a mistake from being made or make mistakes easy to spot
- Some benefits:
  - Reduced re-work
  - Reduced defects
  - Increased safety
  - Increased ROI – less re-work!

Example
For some file cabinets, opening one drawer locks all the rest, reducing the chance of the file cabinet tipping.
Mistake Proofing Examples

- Oversized trays are too big to be thrown away
- Diesel fuel nozzle won’t fit in gasoline intake
- Clearance warnings discourage damage to property
- Auto turn-off function helps prevent fire
Mistake Proofing Examples

- Auto-fill reduces inputting errors
- Drop-down menus prevent incorrect inputs
- Outlook warns users of a potential oversight
- Required fields prevent missing data
Break Time!

(10 Minutes)
Behavioral Insights Techniques

(Workbook pg. 49-56)
Nudge Techniques

How can we “nudge” our customers into making better decisions without limiting their choices?
Choice Architecture

How choices are presented impacts how decisions are made.
“We believe that the easiest way to change people's behavior for the better is by making it fun to do.” –Thefuntheory.com
Getting more people to renew license plates online

Current data mailer
Getting more people to visit Pocketgov.com

Pocketgov.com is giving you the gift of time this holiday season.

Skip the trip at the DMV and renew your license plates from anywhere, at any time, on any device.

Plus, search our special events map for festive entertainment, and sign up for waste pick-up reminders so those party leftovers and discarded wrapping paper are disposed of properly.

Create a personalized profile today and get easy access to your favorite city services!

“I’d rather be waiting at the DMV during the holidays,” said NO ONE EVER.

If you’re like us, you’d rather be singing Jingle Cats karaoke, making snow angels, or decorating your luxurious beard with holiday lights.

With pocketgov.com, you can do all that and renew your vehicle registration this festive season! With personalized reminders for trash and recycling pick-up, street sweeping, and so much more, Denver’s mobile website is the gift that keeps on giving.

Create your profile today and get access to city services from anywhere, at any time, on any device.
Home is where the vote is.
## Innovation Form Brainstorming Section

### Brainstorming

<table>
<thead>
<tr>
<th>If we...</th>
<th>Then we...</th>
<th>Experiment Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get software reports access for billing...</td>
<td>...can reduce time to manually enter data.</td>
<td></td>
</tr>
<tr>
<td>Error-proof data entry into software...</td>
<td>...can eliminate some QA steps and reduce billing defects.</td>
<td></td>
</tr>
<tr>
<td>Establish single workflow...</td>
<td>...can minimize defects, increase coordination.</td>
<td></td>
</tr>
<tr>
<td>Eliminate redundant QA at prelim review...</td>
<td>...can redeploy that review time.</td>
<td></td>
</tr>
</tbody>
</table>

- **Solution-oriented: “if, then” statements**
- **What might have an impact on the gaps we identified?**
- **What do we expect to or anticipate will happen if certain actions are done?**
## Innovation Form Brainstorming Section

<table>
<thead>
<tr>
<th>Brainstorming</th>
<th>Experiment Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If we...</strong></td>
<td><strong>Then we...</strong></td>
</tr>
<tr>
<td>Implement/Test Standard Work</td>
<td>Expect to reduce errors/defects</td>
</tr>
<tr>
<td>Run monthly billing by dumping software report into Billing database</td>
<td>Will have access to all billing information and reports as needed via the billing database</td>
</tr>
</tbody>
</table>

- **Experiment phase** - Test in small-scale, real-world scenarios, allowing us to decide in an environment that encourages failure
- **Get feedback** - How did it go? What barriers were encountered, and how might they be addressed?
E.A.S.T. Framework – Solve It!

• Take out your cards!
• Use the E.A.S.T. cards to **brainstorm potential nudges**
**SIMPLIFICATION**

**Insight:** We are more likely to take action when it's easy for us to do so (and clear what is being asked of us).

**How to apply:** Make a service easier to use or a message easier to understand.

**Example:** Simplifying a form doctors use to prescribe medicines dramatically reduced clinical errors.

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**PERSONALISE**

**Insight:** We are more likely to respond to messages or services which are tailored to us.

**How to apply:** Refer to an individual by name in communications and build services around individual needs.

**Example:** Including a person’s name at the start of an SMS increased the payment rates of court fines.
Let’s Use EASY and ATTRACTIVE

• At each table, there is an innovation form with one of three scenarios
• Brainstorm solutions to the problem that are Easy and Attractive from our customers’ perspectives, using the methods from the EAST Framework
• Put your idea on a sticky note on the “If we...” side. Then put your desired outcome on the “Then we...” side.

<table>
<thead>
<tr>
<th>Brainstorming</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If we...</strong></td>
</tr>
<tr>
<td>Easy: reduce the number of questions on the form...</td>
</tr>
<tr>
<td>Attractive: if we use the customer’s name in the letter...</td>
</tr>
</tbody>
</table>
SOCIAL and TIMELY

**DESCRIPTIVE NORM**

**Insight:** We use other people's behavior as a cue for what's acceptable and desirable.

**How to apply:** When people are doing the right thing (paying their taxes, recycling), let everyone know.

**Example:** Telling people who have not paid their taxes that most people have paid on time increased payment rates.

**PROMPTS**

**Insight:** We are more likely to undertake an activity if given a prompt at the right moment.

**How to apply:** Encourage individuals to take action through a well-timed message or intervention.

**Example:** Asking people if they would like to donate money in their wills at the moment they were writing their wills increased the number of people donating from 5% to 10%.
Let’s Use SOCIAL and TIMELY

• Use the same scenario that you used before

• Brainstorm solutions to the problem that are **Social** and **Timely** from our customers’ perspectives using the methods from the EAST Framework

• Put your idea on a sticky note on the “**If we...**” side. Then put your desired outcome on the “**Then we...**” side.

<table>
<thead>
<tr>
<th>Brainstorming</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If we...</strong></td>
</tr>
<tr>
<td>Social: Do a flash mob every time someone throws something away properly in parks</td>
</tr>
<tr>
<td>Timely: Put signage in places where people tend to dump trash</td>
</tr>
</tbody>
</table>
Prioritizing Ideas: Impact-Effort Matrix

- Prioritize ideas and help set direction
- Determine what to do
- Determine what NOT to do
  - Avoid activities with little value
  - Avoid the noise
- Evaluate time and resources
- Facilitate group collaboration
- Visualize getting the biggest impact with the least effort

High Impact, Low Effort
- “Quick Wins”

High Impact, High Effort
- “Major Projects”

Low Impact, Low Effort
- “Low-hanging Fruit”

Low Impact, High Effort
- “Revisit Later”
Let’s Use the Impact-Effort Matrix

• Continue working in your “If We.../Then We... Groups”
• Use the Impact/Effort Matrix to prioritize which ideas you should do first
• Each team will then do a readout of their ideas to the cohort
FUN!

https://www.youtube.com/watch?v=er3VhHtN_p0
Everybody Nudges!

For profits...

Google  Amazon  Intuit TurboTax  Subaru  Yelp  Lyft  Netflix

And not-for-profits.

npr  PBS  WWF  American Lung Association  American Heart Association  American Cancer Society  madd  No More Victims
Denver Data Team
Kristy Schlenker
Management Analyst
Data Team Vision:

• Enable city agencies to deliver exceptional services by empowering them with the ability to make data-driven decisions.

Data Team Mission:

• Improve city performance by providing the access, framework, tools & expertise required to fully leverage our data & information assets in making informed decision.
**Primary Objective #1**

*Managing Information Assets*

**Services Offered**

- Data Services & Infrastructure
  - Open Data Portal
  - Data Access & Provisioning
  - ETL Processes
  - Data Infrastructure Consulting

- Data Governance
  - Records Retention
  - Privacy Impact Assessments (PIA)
  - Policy & Standards Development
  - Data Quality Tools & Resources
Primary Objective #2

Deliver Insights to Improve Decision Making

Services Offered

❖ Data Use
  ▪ Analytics Center of Excellence (ACE) -
    – Training & support on data use and tools
  ▪ Dashboard Services
  ▪ GIS/Mapping Services
  ▪ Publishing Portal & Services
Primary Objective #3

Generate Incremental Business Value

Services Offered

❖ Developing Data & Information Strategies
Paul Kresser  
Chief Data Officer  
Paul.Kresser@denvergov.org

Submit a Request via SupportNow  
(Category: Data/Reporting)

Kristy Schlenker  
Management Analyst  
Kristine.Schlenker@denvergov.org
Break Time!

(10 Minutes)
Visual Management

(Workbook pg. 57-60)
Field Trip!

• Let’s go up to the 10th floor to see BMO & Peak Academy Production Boards

Could the creation of a Production Board be a “Just Do It” after you’re done with Black Belt training?
Visual Management Systems

**Visual Management:** The placement in plain view of all tools, parts, production activities, and indicators of production system performance, so the status of the system can be understood at a glance by everyone involved.

- **Know where you are**
- **See where you are**
- **Solve for today**
Why Visual Management?

Lead with purpose and motivation by:
• Understanding the quality of your widgets
• Know and manage your timeliness for service delivery
• Enhance communication with your teams, staff, management, and the customer.

“Remember, people play differently when they are keeping score... When they can see at a glance whether or not they are winning, they become profoundly engaged.”
– Chris McChesney (The 4 Disciplines of Execution)
Different Types of Visual Management

• Visual Management Systems
  o “Billboard”
  o “Lantern”
  o Production Boards

• Some Potential Benefits
  o Show productivity in “real time”
  o Provides Transparency to the Process
  o Good for Customer Service Improvement
  o Increases “Flow” in a process
Visual Management Examples
Mapped out current state

Mapped out ideal future state

Used Visual Management to address problem

Visual Management Example
Denver Human Services
## Additional Examples

<table>
<thead>
<tr>
<th>Production Boards/Graphs</th>
<th>Gauges</th>
<th>For Customer or Staff</th>
<th>Colors, Shapes, Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Production Boards/Graphs" /></td>
<td><img src="image2.png" alt="Gauges" /></td>
<td><img src="image3.png" alt="For Customer or Staff" /></td>
<td><img src="image4.png" alt="Colors, Shapes, Signs" /></td>
</tr>
</tbody>
</table>
When Implementing...

1. Know your audience
2. Engage and be responsive
3. Does your space represent how you want to work?
4. Visual Management shouldn’t be random
5. Useful for celebration, transparency, and improving service
Remember...

When creating Visual Management, the goals are:

• To make information visual in an easy to understand manner
• To highlight critical information
• To expose and eliminate waste in your process
• To know your target (Is the group moving toward that target?)

Visual Management Relates to:

- Gemba Walks
- Checklist
- Mistake Proofing
- Metrics
Video: Incredible Transformation at PHI Through Data Driven Decisions
• Think about what metric is most important in your work
• Create a production board based on that metric
• Think about where this production board will live
Lunch Break

(1 Hour)
Standard Work

(Workbook pg. 61-62)
Move Seats 😊
Looking only at your piece of paper (and NOT at your neighbor’s), draw a tree
Create Instructions

• GREAT JOB!

• Now, create instructions on how to draw your tree using only words and numbers
  • Please add your name

• No Shapes
• No Pictures
• No Peeking!
Draw a Neighbor’s Tree

• Now, exchange instructions with a person at another table

• When you are done, compare your new tree to the tree of the owner of the instructions you used

How close is your new tree to their original?
Standard Work:

- Create standard procedures & documentation that will...
  - Mature your process & sustain innovation
  - Help train team members
    - This can be as simple as a “Process/Procedure Document”
Some Things to Keep in Mind

- Always start with what the customer values
- The more visual it is, the easier it is to understand
- Simple and clear is always best
Standard Work Example: Denver Animal Protection Bite Report

Innovation to Original Paper Form

Switched to Digital Using Chameleon Software
### Standard Work Example:
**Fire Department Community Requests**

#### Community Request Process

<table>
<thead>
<tr>
<th>WHO</th>
<th>TASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Fill out request at <a href="http://www.denvergov.org/DFDcommunity">www.denvergov.org/DFDcommunity</a></td>
</tr>
<tr>
<td>PIO/Outreach</td>
<td>Move email from Outlook Inbox folder to the CADETS TO BE LOGGED folder</td>
</tr>
<tr>
<td>Cadets</td>
<td>• Insert new row in Community Request Log</td>
</tr>
<tr>
<td>Pages 10-14</td>
<td>• Highlight the row in yellow</td>
</tr>
<tr>
<td></td>
<td>• Copy info from email into Log</td>
</tr>
<tr>
<td></td>
<td>• Add notes if you didn’t pick the closest rig or if you have questions</td>
</tr>
<tr>
<td></td>
<td>• Move email from Outlook CADETS TO BE LOGGED folder to CADETS LOGGED folder</td>
</tr>
<tr>
<td></td>
<td>o Note name/date in Request Log</td>
</tr>
<tr>
<td>PIO/Outreach</td>
<td>• Review Yes/No</td>
</tr>
<tr>
<td>Page 15</td>
<td>• Add notes for Operations if needed</td>
</tr>
<tr>
<td></td>
<td>o Highlight the row in green for Yes (or red if No); note name/date in Request Log</td>
</tr>
<tr>
<td></td>
<td>• Future: Type in materials request field</td>
</tr>
</tbody>
</table>
Standard Work Example:
CPD Plan Review Notice

**Plan Review and Inspections Conditions**

- The plan review must be a review of the plans and specifications submitted to the Denver Planning Department, including any design and engineering revisions that may be required. The elected officials, design professionals, and contractors will evaluate these plans.
- The plan review must be conducted in a prompt and efficient manner to ensure that the project is completed as quickly as possible.
- The plan review must be completed within 30 days of the date the plans are submitted.
- The plan review must be conducted by a registered design professional or an approved plan review agency.
- The plan review must be conducted in accordance with all applicable laws and regulations.
- The plan review must be conducted in a manner that is fair and impartial to all parties involved.

**Plan Review Notice**

- The plan review notice must be signed by the project owner and the design professional.
- The plan review notice must be submitted to the Denver Planning Department.
- The plan review notice must be submitted within 30 days of the date the plans are submitted.
- The plan review notice must be submitted in a form that is legible and easy to read.

**Corrections Not Required After Review**

- The plan review notice must be signed by the project owner and the design professional.
- The plan review notice must be submitted to the Denver Planning Department.
- The plan review notice must be submitted within 30 days of the date the plans are submitted.
- The plan review notice must be submitted in a form that is legible and easy to read.
Video: DOTI Striping Standard Work
Break Time!

(10 Minutes)
6-S

(Workbook pg. 63-66)
Puzzles!

Round 1
No Talking or Collaborating
Dump your puzzle pieces in the center of the table and put the container under your desk

Round 2
Sort and Set in Order
You can now work together and talk. Your puzzle is made of smaller pieces. Organize your pieces.

Round 3
Shine and Standardize
Place unnecessary pieces back in the box. You will be given a picture of the complete puzzle.
6-S

Safety

Sort

Sustain

Set in Order

Standardize

Shine
6-S: Sort

- Separate unnecessary from the necessary
- Remove things not regularly required for the process
- Add things that are missing
- Discard junk

**RED TAG** items

- For follow-up, evaluate and decide
  - Item is needed = keep it
  - Item not needed = discard it!

Before a 6-S

After a 6-S
6-S: Set in Order

- Provide needed tools within easy reach
- Organize so it is easy to prepare and complete work
- Standardize workstations where similar work is done
- Centrally locate shared items so they are convenient for everyone
- Move items into the open so they are easy to retrieve and see
- Label everything!

A place for everything, and everything in its place.
6-S: Shine

- Clean all work surfaces, under & behind all equipment
- Re-paint to make everything look new
- Make problems stand out
- Goal: Create a visual workplace
6-S: Standardize

• Consistency and repeatability
  • Within a space
  • Between spaces

• Maintain a specific result

• Standard work for keeping the area organized

• Develop maintenance schedule
6-S: Sustain

- Ensure the space REMAINS clean and organized
- Involve all those who have a stake in the process
- Make the process part of the culture
- Adhere to the maintenance schedule
- Allocate time periodically to continue up-keep:
  - Sort
  - Set in Order
  - Shine
  - Standardize
  - Safety

Example Schedule
6-S: Safety

- Be on lookout for safety issues
  - Employee Safety
  - Ergonomic Issues
- Eliminate opportunities for injury
  - Ensure safety equipment ready to use
- Properly secure equipment
- Securely store supplies

General Services uses signs to prevent over-stacking materials
6-S Opportunities

- Your desk or workstation
- Vehicles
- Copy/Supply Rooms
- Training Rooms
- File Cabinets
- Around the house
6-S Example: GS Supply to Scanning

Before 6-S

After 6-S
Video: Making Denver Parks Beautiful from the Inside Out
Break Time!

(10 Minutes)
Bright Spot Guest Speaker
Day 3 Wrap-Up

What things did you like about today?

What things do you think would make the rest of the days in training work better?