

BLACK BELT TRAINING

Peak Academy – City and County of Denver

Name:

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Denver Peak Academy
Finance Dept/Budget and Mgmt

201 W. Colfax Ave.
Denver, CO 80202
www.denvergov.org/PeakAcademy



Denver Peak Academy Black Belt Participant:

Welcome to Denver Peak Academy! All of the ideas and tools in this book are stolen from people way smarter than us. We went online (Google is amazing), we went to classes, we attended conferences, we read books (yes, real books!), and we shared drinks and stories. We looked for people who changed the world and we soaked in their experiences. Then we created a program: Denver Peak Academy.

At first people hated our class. It was a boring, government class. Then we learned from our mistakes and put a little more fun and heart into our work. Along the way we learned that the best ideas always come from many people willing to build upon each other. And it's better if the people you surround yourself with are smarter than you. What follows is a collection of materials and ideas written (mostly) by people who are way smarter than us. We teach you all of this in reverence to them and with the hope that you, too, will change the world. Even if it's just your little corner. Because that's all you know. And that's enough.

Sincerely,

Melissa Wiley
Denver Peak Academy Manager
City and County of Denver



Mission:

Peak Academy trains and coaches employees at all levels to improve the way government works. Through innovation, employees do more with less and enhance the Denver city experience.

Vision:

Peak – changing the way government operates to improve your experience.

Values:

Peak Academy believes...

- In achieving measurable results through continuous improvement;
- In our ability to make Denver the most well-run city in the nation;
- In patience with people and impatience with processes;
- In supporting colleagues to innovate;
- In failure; because failure leads to breakthrough

Get to know the Denver Peak Academy Team

Melissa Wiley – *Denver Peak Academy Manager*



Melissa Wiley is the manager of Denver Peak Academy. She has been with Peak since it started in 2012 and served as the lead analyst for Denver Animal Protection and the Department of Excise and Licenses before leading the team. Prior to joining Peak, Melissa worked for the United States Department of State and the Children’s Hospital of Philadelphia. She started her career in public service as an aid to the U.S Economic Advisor to Northern Ireland during the Peace Process. She holds a Master’s Degree in public administration from the University of Pennsylvania. Originally from Boulder, Colorado, Melissa now lives suburb of Denver with her husband, Craig, and daughter, Sydney Jo. Her mission is to infuse greater joy into every aspect of public service.

Jerraud Coleman – *Denver Peak Academy Deputy Manager*



Jerraud is a creative, positive and hardworking Performance Improvement Specialist for the City and County of Denver’s Peak Academy. Alongside a great team of professionals, he facilitates process improvement events, trains employees of governments, non-profits and other enterprises (nationally, abroad and at all levels) in the principles and methods of “Lean” and other change management tools like PDCA (Plan-Do-Check-Act/Adjust). Jerraud believes that “sharing and talking about these tools can help enterprises identify and sustain the elimination of any waste found within any process. Thus resulting in happier customers, a more effective and efficient process, as well as a better product or service overall.” Jerraud holds a BFA (in Integrated Arts) from the University of Colorado, Boulder.

Drew Brown – *Process Improvement Specialist*



Drew Brown is a Process Improvement Specialist for the City and County of Denver’s Peak Academy, with a background in sustainability and a business degree from the University of Minnesota - Twin Cities. He specializes in helping employees build trust on their teams, and facilitating departmental strategic planning and goal setting. His belief is that everyone’s voice matters and he strives to create opportunities for individuals to express their ideas and find productive ways to implement them. In college, he was a Division 1 athlete and received Academic and Athletic All-American honors, and he competed in the 2008 Olympic Trials. He grew up in Aurora, CO and currently lives in Denver with his amazing wife Megan and his cat and dog, Loki and Remus.

Andy Rees – Process Improvement Specialist



Andy joined the Denver Peak Academy team as a Process Improvement Analyst in August 2016 after spending three years working as the Marketing and Outreach Coordinator at the Denver Animal Shelter. Andy loves to meet, train, and work with employees across the City to continuously make Denver a better place to work and live. He is particularly passionate about helping employees eliminate the things that bug them within their work processes, resulting in greater job satisfaction and enjoyment. When not working, Andy enjoys spending time with his wife, Erin, and his daughter, Ada.

Andy grew up in SW Kansas and received his Bachelor of Business Administration from Washburn University (Topeka, KS), majoring in Marketing and Management.

Robert Peek – Process Improvement Specialist



Robert is a Process Improvement Specialist with Denver Peak Academy. Before joining the team, he worked on advocacy campaigns ranging from renewable energy to human rights to local elections to water conservation. He worked in non-profit development, operations, grassroots organizing and customer service and in all those spaces there were always processes that needed improving. He was so frequently responsible, at least informally, for helping ensure that things work better that it's only natural that he find himself officially in that role here at the City and County of Denver. He's excited to bring his passion for creating change to Denver and to help empower city employees to innovate on their work. Robert grew up in Mishawaka, IN and holds a BS in Public and Environmental Affairs from Indiana University.

Nathaniel Bradley III – Process Improvement Analyst



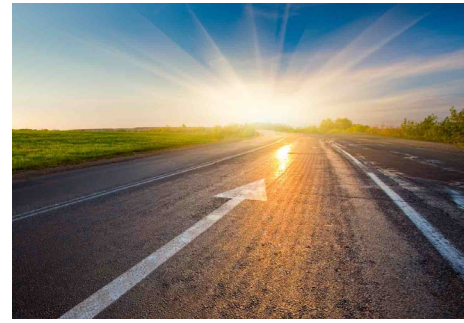
Nathaniel is a Process Improvement Analyst with Denver Peak Academy. Before joining the team full-time, he spent time interning at the City and County of Denver and the City of Miami. While in Denver, he assisted Peak Academy with facilitating and innovating the training curriculum. With Miami, he worked in the Strategic Planning Office assisting with projects for the three-year strategic plan and the Miami Innovation Academy. Through his internship experiences, Nathaniel built a strong love for process improvement and public service.

Nathaniel grew up in Aurora, CO and received his Bachelor of Arts from the University of Miami (Coral Gables, FL), majoring in English and minoring in Public Relations.

What is Process Improvement?

Process Improvement applies **continuous improvement methodology**¹ to deliver **value to the customer, on demand** through:

- Implementing **solutions driven by the people who do the work** (bottom up rather than top-down)
- **Investing in employees**



Waste is Disrespectful:

Waste, in terms of process improvement, is anything *that doesn't add value to the customer*. Waste impacts three main categories:

- **Humanity:** waste is disrespectful to humanity because it wastes scarce resources.
- **Citizens:** waste is disrespectful to citizens because it asks them to pay for processes with no value.
- **Individuals:** waste is disrespectful of individuals because it asks them to do work with no value.

It is up to the employee to identify waste and discover how to remove or reduce it in a way that adds value to the customer.

The Five Principles of Innovation:

The Toyota Production System, pioneered by Taiichi Ono, uses five core principles that guide innovation:

1. Identify the **value that your customers demand**.
2. **Map the steps** required to deliver value to your customers.
3. Deliver value to customers **on demand** ("Pull")
4. Deliver value to customers **without waste** ("Flow")
5. Seek perfection: **standardize and solve** to improve.

Each of these core principles should be considered during the process of solving a problem. Most of these are rather self-explanatory, but what does "flow" actually mean? Flow is when work seems effortless, almost as if you could do it in your sleep. It's what is felt by a baseball pitcher when they throw a perfect game or a basketball player when they make every shot. In terms of a process, it's when everything happens correctly, on time, at the right place, and delivers the value the customer wants.

As you may have noticed, the fifth principle says "seek perfection." Note the word "seek"; perfection is something that may never be achieved, but anything can be improved. That is why this is called *process improvement* and not *process perfection*.

Notes:

¹ Developed by Toyota through their Toyota Production System

Please answer the questions below to aid in your understanding.

Describe the values your customers demand from your processes.

Are there ways your current processes are wasteful? Do your processes use physical/time resources inefficiently?

Describe what you think “*flow*” might look like in your job or your life in general:

Notes:

Overview

An **Innovation Form** is a planning tool that can be helpful in planning innovations in your organization. It is a tool for implementing innovations in the City and a document we use to record savings and impact.

The Innovation Form can be used to think through any issue, problem, or opportunity and is essential in clarifying the scope of an innovation. We use it for building consensus and communicating the outcomes or improvements that result from an innovation. You can download the Innovation Form template from our website (*google Denver Peak Academy and click the first link, it can be found under the See It! Tools section*) in Word format.

Front

Peak Innovation Form

Innovation Name: _____ Start Date: _____
 Who's Involved: _____ End Date: _____

Problem – Why Change is Needed (1-2 Sentences)

	Current State (CS) Costs	Future State (FS) Costs
Qualitative (Feelings)		
Money \$		
Errors		
Amount #		
Time		
Yearly Cost (Annualized)		
Yearly Savings (CS Cost – FS Cost)		
Yearly Savings to Customer (Value of Customers Time)		

Gap Analysis – What holds us back from our Future State?

Wastes Observed (Check All That Apply)

<input type="checkbox"/> Defects	<input type="checkbox"/> Transportation
<input type="checkbox"/> Overproduction	<input type="checkbox"/> Inventory
<input type="checkbox"/> Waiting	<input type="checkbox"/> Motion
<input type="checkbox"/> Non-Utilized Talent/Things	<input type="checkbox"/> Excessive Processing

Brainstorming

If we...	Then we...	Experiment Outcome

Back

Peak Innovation Form

Action (What Did You Do?) 1-2 Sentences

Action Item	Assigned To	Date Completed

Please Add Photos or Screenshots of What You Did

Results (How is Everyone Better Off?) 1-2 Sentences / Updated Metrics

	Current State	Future State	30 day	60 day	90 day
Money					
Errors					
Amounts					
Time					
Qualitative					

Lessons Learned

What Went Well (+)	What Didn't Go Well/Needs Changed (Δ)

Additional Innovation Notes Here

Notes:

How to use it:

Why Change is Needed:

Start with **the first box**: Why is change needed? Think about a statement that will resonate with the “emotional” side of the people involved. What is the impact on the customer? What is happening in the current state that is unacceptable to the end user? Use this section to tell a story about the issue.

Practice with an issue you’re having in the box below.

Current State: Moving on to **the second area**: This is where you place your **M.E.A.T.** This box caters to the “Spocks” of your organization. **How much money does the process cost? What kinds of errors appear in the process? How many times do you do the process? How long does the process take?**

Practice with your M.E.A.T in the box below.

Future State:

Next to your current state metrics, set a **realistic goal for change** in each section of your M.E.A.T. How much would you like to reduce cost? 50%? 75% How many errors do you think it’s reasonable to have? How much time should it take in the future? This is all about goal setting. Set the target and think of innovations that will help you get there. **Practice with your future state in the box below.**

Notes:

What is a Performance Metric?



A **performance metric** measures an organization's behavior, activities and progress towards its stated goals. It should support a range of stakeholder needs from customers, shareholders and employees and can help to gauge the effectiveness of a program's strategies to achieve an agency's goals.

There is no one perfect set of performance metrics—the “right” metrics will depend on the project's **WIG** (Wildly Important Goal) and may require multiple iterations to discover more about the process/system in question.

Below, in your opinion, what are “*performance metrics*”?

Performance metrics are	Examples
	Related to the program or process' WIGs and purpose
	Reliable measurements of outputs and outcomes like # of steps and weight in pounds and kilograms
	Just goals
	Measures of success in relationship to a process, system, program, customer, etc.

It is helpful to focus on a mix of metrics that measure different aspects of the service being provided—for example, use one metric that is meaningful to the customer and another that will resonate with leaders and the organization's strategic goals.

List some of your organization's “**WIGs**”:

WIGs of the organization	Examples
	Decrease the time it takes to identify and hire the best talent in Denver by roughly 45%

Notes:

MEATY?

Performance metrics can be difficult to grasp, especially when approaching them in the middle of a whirlwind. Try focusing on these five basic metric categories to help you establish a **MEATY** current state and future state case:

				
<p>MONEY</p> <ul style="list-style-type: none"> *What is the cost of your process? *Hard dollars: cost for physical materials *Cost of materials *Soft dollars: cost of labor time *Cost of AVG FTE per hour *AVG Customer Salary per hour 	<p>ERRORS</p> <ul style="list-style-type: none"> *How much rework *Quality measures *Number of defects per transaction *Negative ratings and scores *Defect rate 	<p>AMOUNTS</p> <ul style="list-style-type: none"> *Supply: How many widgets do you make/process *Demand: How many clients do you serve *The number of calls you log *The number of cases you defend *The number of meals you make 	<p>TIME</p> <ul style="list-style-type: none"> *The length of time it takes to make your widget per week *The length of time per transaction your customers waits for your widgets to be delivered *The length of time per week one actively works on creating and delivering your widget 	<p>Yearly Costs</p> <ul style="list-style-type: none"> *The length of time it takes to make your widget per year *The length of time per year your customers wait for your widgets to be delivered *The length of time per year one actively works on creating and delivering your widget to its customer

Like Peter Drucker said, “what’s measured, improves.” Once you determine the appropriate metrics to reach your **WIGs**, list your **MEATY** metrics in the **Current State - CS (box 2)**, **Future State - FS (box 3)**, and **Results (box 8)** section of the A3 template. Rally around your performance metrics regularly to sustain improvements and continuously improve your system at every level.






Q: How can you use the “**MEATY**” to continuously improve your process?

Notes:

An example: Agency #C is trying to improve their work order process. They know how many work orders are requested through their system, how long (AVG) it takes to process a work order, and how many are successfully processed correctly the first time. Using this information, they can calculate how much money it **costs** their agency to complete this process. Additionally, this agency will know what the **Yearly Savings** will be. They will know whether their idea is worth pursuing, how close they are to reaching it.

- In order to calculate the **Yearly Savings**; subtract the Future State (FS) Costs from the Current State (CS) Costs: \$25 soft dollar (CS Costs) - \$20 soft dollars (FS Costs) = \$5 soft dollars/year (**Yearly Savings**)

With the metrics listed below in box 8 (Results), fill in the missing “**MEATY**” metrics to identify the “**Yearly Savings**”:

8. Results – Agency #C					
Metric	CS	FS	30 Days	90 Days	Yearly Savings
 Money	\$25/hour per FTE 1 FTE per transaction 1 ream (500 sheets) of paper cost \$50	\$25/hour per FTE 1 FTE per transaction	\$25/hour per FTE 1 FTE per transaction	\$25/hour per FTE 1 FTE per transaction	
 Errors	5% of transactions completed incorrectly	2.5% of transactions completed incorrectly		3% of transactions completed incorrectly	
 Amounts	100 transactions/month 100 sheets of paper/month	100 transactions/month w/ 10 sheets of paper/month			
 Time	10 minutes of touch time/transaction	8 minutes of touch time/transaction	9 minutes of touch time/transaction		2 minutes of touch time/transaction = 20% decrease in time
 Yearly Costs	\$.41/min per FTE *1 FTE/transaction * 10 minutes/transaction * 100 transactions/month * 12 months/year = \$4,920 soft cost + 100 sheets of paper/month * 12 months/year = 1200/sheets/year/500 sheets/ream of paper = 2.4 ream/year * \$50/rem = \$120/year in hard costs = \$5,040 soft dollars (costs)/year	= \$3,948 soft dollars (costs)/year			\$1,092 soft dollars (savings) = 21% Savings in hard and soft dollars

Notes:

Types of Process Metrics

The following metrics are typically used for measuring performance in process and continuous improvement strategies:

	Metric	Definition
Time & Workload Metrics	Lead Time	Total time to create a service/product and get it to the customer, incl. waiting time
	Processing/Touch Time	Amount of time spent on process steps, not including waiting time
	Response Time	Amount of time to respond to a customer request for a service or product
	% On-Time Delivery	Percent of time the product/service is delivered on time
	Backlog	Number of products or services waiting to start the process
	Wait Time	Amount of time a customer is waiting for a widget/downtime
Quality Metrics	Defect Rate	Percent of services/products that are “defective”
	Rework Steps / Time	Amount of a process spent correcting mistakes or getting missing information
	Percent Complete & Accurate	Percent of occurrences where a process step is completed without needing corrections or requesting missing information
	Rolling First-Time Yield	Percent of occurrences where the entire process is completed without rework; this is the product of the <i>Percent Complete and Accurate</i> for each process step, expressed as a %
MISC	ROI	Return on Investment
Note: not all of these metrics may be appropriate, applicable, or useful for your situation.		

Using the previous example, fill out the table below with metrics from one of your A3s/Innovations:

8. Results – Agency #C					
Metric	CS	FS	30 Days	90 Days	Yearly Savings
Money					
Errors					
Amounts					
Time					
Yearly Costs					

Notes:

Types of Savings

Hard Dollar

Improvements that reduce budget expenses



Soft Dollar

Improvements that save people's time (opportunity cost)



Value to Customer

Soft and hard dollar savings to the customer



Service Level Improvement

Improvements that add value to people or processes, with no hard or soft dollar savings



Human Development

Improvements that increase knowledge, skills, & abilities of an individual



Overview

Gemba is a Japanese word meaning **“the real place.”** The idea of a Gemba Walk is simple: if you want to know how a process really works, go to where the work is done and watch it in person to gain a deeper understanding of the process. A Gemba Walk helps gain insight to be able to effectively map a process and identify waste within the process. It’s important to clearly scope the process & customers of the process prior to completing a Gemba Walk.

As you complete a Gemba Walk, take notes & answer these questions

Questions to ask the host(s) of the Gemba Walk	Answers
What is the name of the process you are going to “walk”?	
Where does the process start (first step of the process)? Is this start-point obvious to the customer of the process?	
When does the process end (last step of the process)? Is this end-point obvious to the customer of the process?	
Are front-line employees ‘empowered’ in this area to deliver value to their customers? Can they make decisions and implement change?	

What are the steps and times in the process?	Process Steps Ex: ASA Prints Citation	Time Per Step Ex: 60 sec
Are there any steps that do not obviously add value to the customer of the process?		
Can any non-value added steps possibly be removed from your viewpoint as an outsider	NOTE – You may not understand why some steps exist, but ID steps you think are not adding value to the customer.	

watching the process? What steps in particular?	
Where can the team that performs the process create or enhance PULL (delivering value on demand)?	
Where can the team that performs the process create or enhance FLOW (delivering value without waste)?	
What issues are present during this process? What are the root causes of these issues?	
Who are the customers of the process & what do they value in this process?	<p>Primary Customer:</p> <p>Secondary Customer:</p> <p>Tertiary Customer:</p>

Gemba Walk Participants

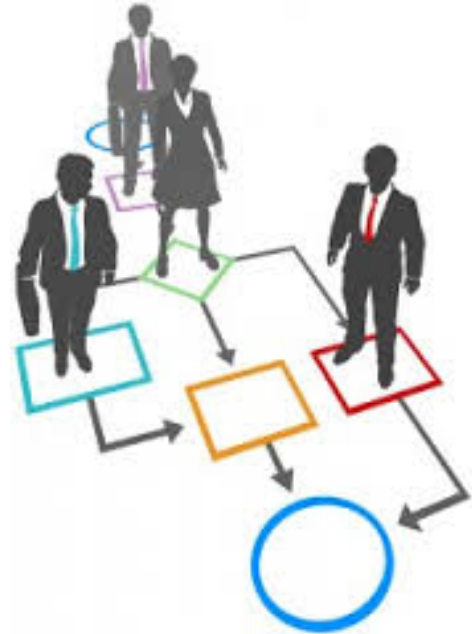
Participant Name	Role	Phone #

What is Process Mapping?

Process mapping is a workflow diagram that can bring forth a clearer understanding of a **process** or series of parallel **processes**.

What is a Process Map?

A **Process Map** is a diagram that visually displays a series of events or steps that occur within a given process. There are **several types of process maps**, and at Peak Academy, we believe there is no wrong way to do a map. Maps are great visual aids that enable members of a team to understand and achieve standard work and continuous improvement. You will want to create a current state map first and use **the 8 Wastes (DOWNTIME)** to help with the future state.



Include the following in every type of Process Map you create:

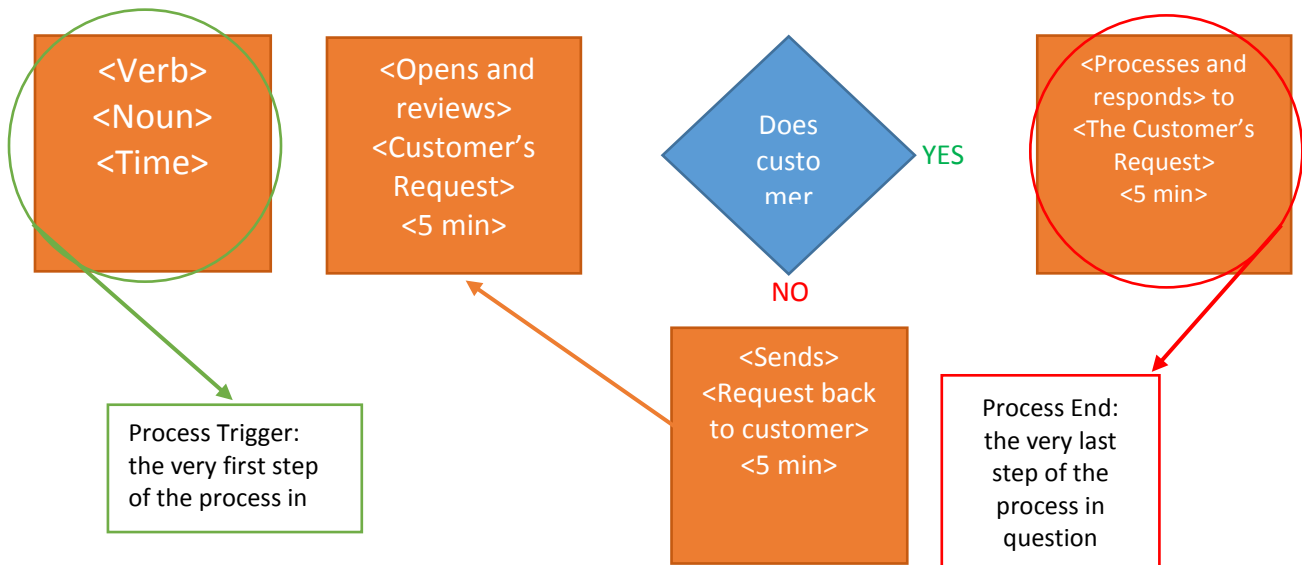
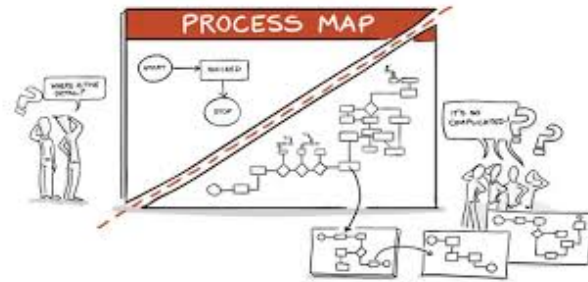
- Put the **title** of the process, current or future state, and the **date** at the top of the process map
- Define the **start** and **end** points
- Identify who the **customer** of the process is
- Use square sticky-notes for steps & rotate them 45 degrees into diamonds for decision points
- Label the **time** it takes for each step as well as for the process as a whole
- Identify **value added**, **non-value added**, and **business necessary non-value added steps**

In the box below, list the benefits of using a **“Process Map”** and **“Process Mapping”**:

Notes:

Easy “How to” Using Sticky Notes:

Create a map by using post-it notes on a large roll of paper. Use different color post-it notes for action steps vs. decisions. Use a post-it note as a square for **action steps** and a diamond for **decisions points**. Each post-it note should represent a different step in the process. **Note example:**



Using the example above, “*map out a process*” (at a high-level: 5-7 steps) that you control or work on:

Notes:

General rules of thumb

- Map from left to right
- Mark milestones and/or time to deliver value to your customer
- Document volumes of “widgets” that go through the process
- **Boxes = Steps in a process (label “who” and use verbs)**
- **Diamonds = Decision points in the process (Yes/No, If/Then...)**
- Use pink ‘stickies’ to represent waste/issues
- An assortment of colors can be used for different work groups or individuals in the process
- Processes can occur at the same time, with one process shown above or below the other (known as ‘swim lanes’)

Remember

You’re not going to break anything! Strive to ensure the process map is accurate and reflects the work that’s actually done!

Q: How many touch points/action steps are there in your process?

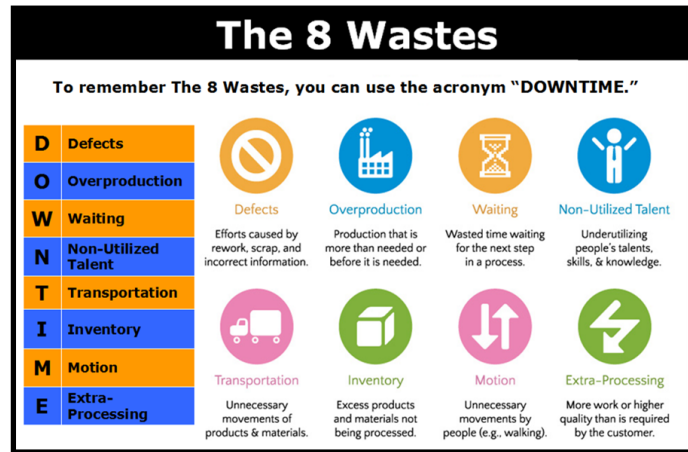
Notes:

What is DOWNTIME?

DOWNTIME is a tool to identify the 8 types of waste that can exist in a process. Different approaches to Lean may include 7, 8, or 9 types of waste, but no matter how you break things down, the overall goal is to ensure we are observing a process, identifying waste, and identifying how to eliminate the waste.

Remember that in Lean, we want to eliminate waste because it is **disrespectful** to:

- **HUMANITY** - because it wastes scarce resources.
- **CITIZENS** - because it asks them to endure and pay for processes with no value.
- **INDIVIDUALS** - because it asks them to do work with no value.



The 8 Wastes	Related Examples & Questions
1. <u>D</u> efects	<ul style="list-style-type: none"> • Is there re-work because of errors, poor quality control, or lack of standards?
2. <u>O</u> verproduction	<ul style="list-style-type: none"> • Pushing work downstream before the next person is ready • Producing reports no one needs • Entering repetitive information
3. <u>W</u> aiting	<ul style="list-style-type: none"> • Waiting for info , resources, or approvals • Dependency on others to complete tasks • System response or down time
4. <u>N</u> on-utilized/underutilized human talent & things	<ul style="list-style-type: none"> • Underuse of people's talents or skills • Printers, computers, & scanners not being used
5. <u>T</u> ransportation	<ul style="list-style-type: none"> • Email distribution lists not up-to-date • Unorganized work space • Multiple handoffs
6. <u>I</u> nventory	<ul style="list-style-type: none"> • Extra office supplies or other inventory than is needed • Files awaiting task completion • Filled in-boxes (paper and electronic)
7. <u>M</u> otion	<ul style="list-style-type: none"> • Unnecessary data entry or motion between areas • Searching for work documents or other supplies • Hand carrying paperwork to other departments
8. <u>E</u> xcessive Processing	<ul style="list-style-type: none"> • Can some tasks be combined or eliminated? • Is too much time spent on unnecessary tasks?

Notes:

DOWNTIME Worksheet

Use the table below to “*ID waste in your current process*” and make notes about how to eliminate it:

Types of Waste	Waste Identified in Your Process
<p>Defects Something that causes rework, like an unintended over issuance</p>	
<p>Overproduction Many extra copies of applications that have now become obsolete</p>	
<p>Waiting time Waiting for clients to submit verifications</p>	
<p>Non-Utilized Human Talent Workers walking clients to child support enforcement – 40 hours were spent and 33 miles were walked/month</p>	
<p>Transportation Needlessly going to another location for a meeting that could happen over the phone</p>	
<p>Inventory Volume of applications to process</p>	
<p>Motion Unnecessary human movement</p>	
<p>Excessive Processing Extra steps in a process simply because we have always done it that way</p>	

Notes:

Value Added (VA)?

Value in terms of a process is **anything that the customer is willing to pay for**.

In Peak terms, we call this **Value-Added (VA)**. For example, when you eat a meal at a restaurant it's the meal and the service you're paying for and not the waiting in-between. When you go to the DMV to get a new drivers' license, all you want it to receive the license. Would you pay for the waiting in-between?

By identifying which steps do or do not add value to a given product or service, you're able to **assess whether a step should be kept or reduced**.



Business Necessary – Opportunity to Innovate (BN/OTI):

Steps or actions that **must be completed for legal or regulatory requirements** are considered to be **Business Necessary - Opportunity to Innovate (BN/OTI)**.

Ask the question, “would I get in trouble with the law if I didn’t do this step?”. If the answer is yes, it’s BN/OTI. This can sometimes be confused for a step that is in place due to a *policy*, or step that you were told “*it has to be done*.” Those are not business necessary unless they have to be done because the law says so.



For example, if a process requires you to have three signatures on a form, it's most likely due to a “*that's the way we've always done it*” situation. However, if a specific law requires you to do a safety check on a state-owned vehicle before driving it, that would be business necessary.

Notes:

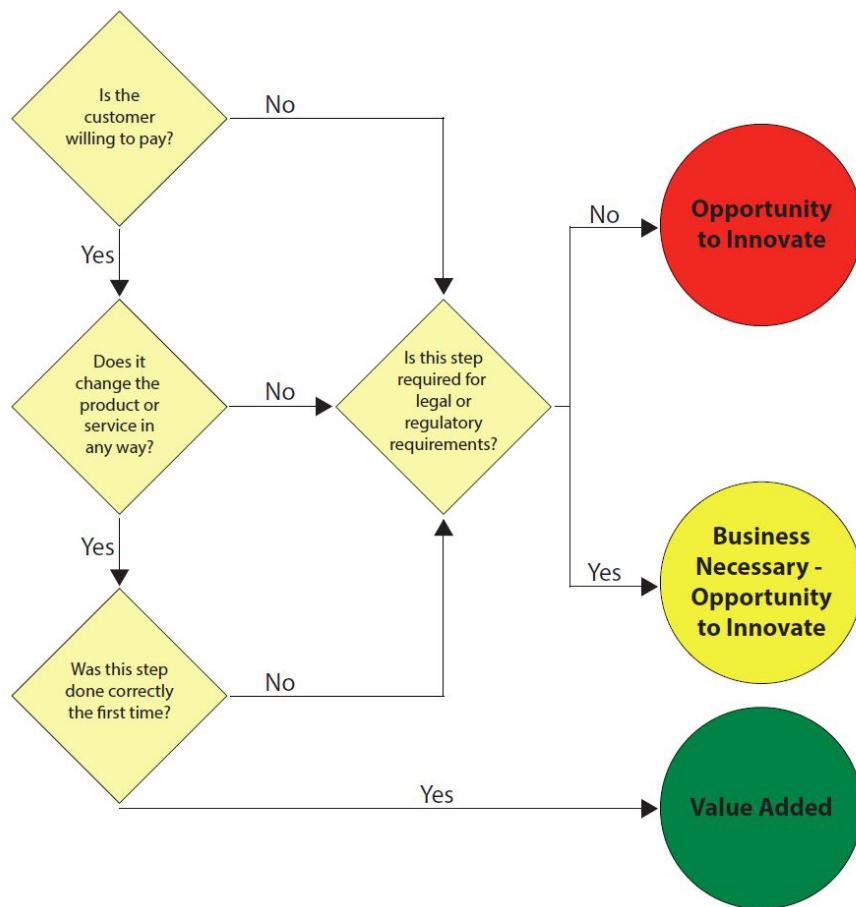
Opportunity to Innovate (OTI):



A step that **is not required by law** and that the customer would not pay for is considered an **Opportunity to Innovate (OTI)**.

This could mean that the customer is not willing to pay for it, which would also make it a possible area to improve. In the examples above, waiting in line at the DMV or waiting for your meal to be served is not something you would be willing to pay for. These steps are often left-over from previous iterations of a process and are there because “that’s the way we’ve always done it.” Here, there is an opportunity to remove these steps or do them differently.

Use the diagram below to help with identifying each type of value.



Notes:

Value Added Analysis Chart

Add the Value-Added Analysis Chart to the bottom of your process map.

	VA (Value Added)	BN/OTI (Business Necessary, Opportunity to Innovate)	OTI (Opportunity to Innovate)	Total
# (of steps)				
% (of total steps)				
Time (total of steps)				

If you were the customer in a process you do at work, what steps of the process would you pay for?

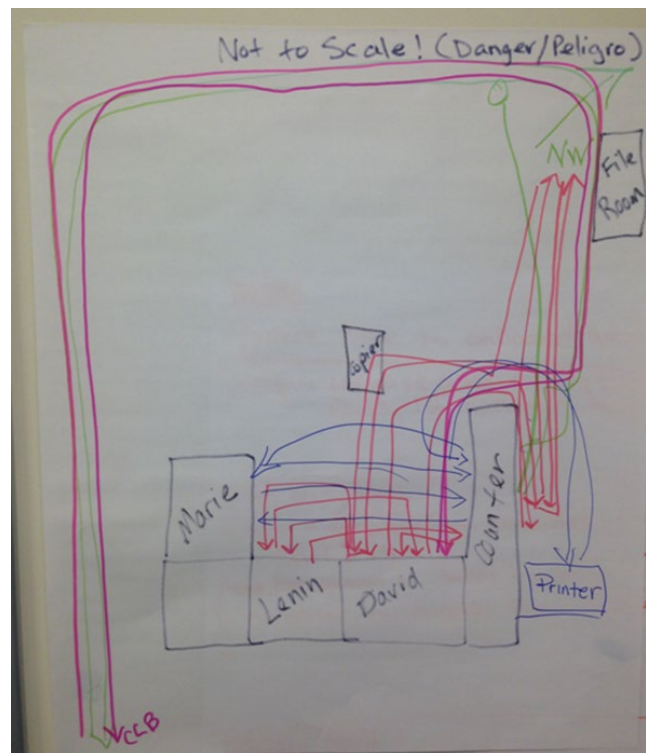
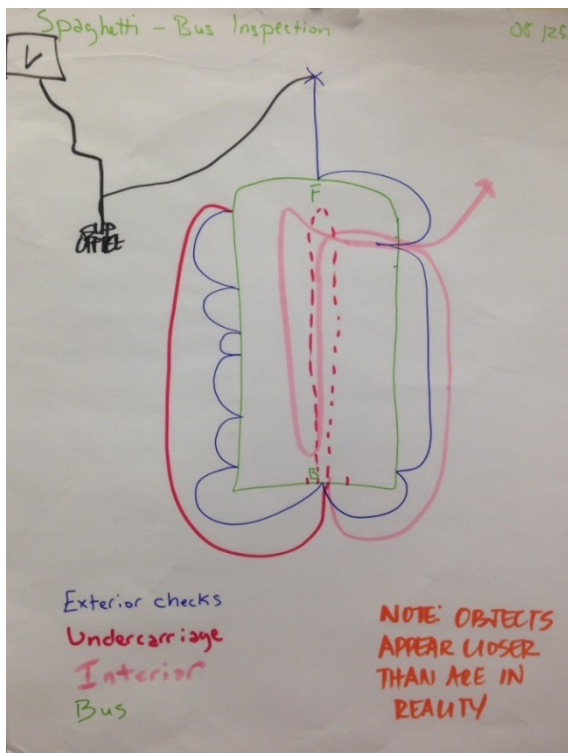
In the same process you used above, what things would your customer not pay for?

Which things are required by law in your process?

Helpful hints:

- Where does it start?
- Where does it end?
- Are all motions equally important?
- What are the Value-Added steps?
- What are the steps we can do without?
- Can a 15-year-old understand what is happening on this map?

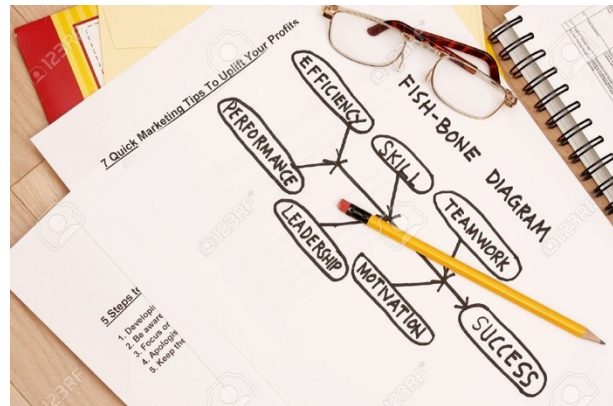
Other Examples:



What is a Fishbone Diagram?

A fishbone diagram is a root cause analysis tool. By using a fishbone diagram, one can **identify and organize causes to a problem** so that the causes can be prioritized for further investigation. The diagram is intended to show:

- The problem (or effect)
- The categories of the causes of the problem
- The specific causes of the problem

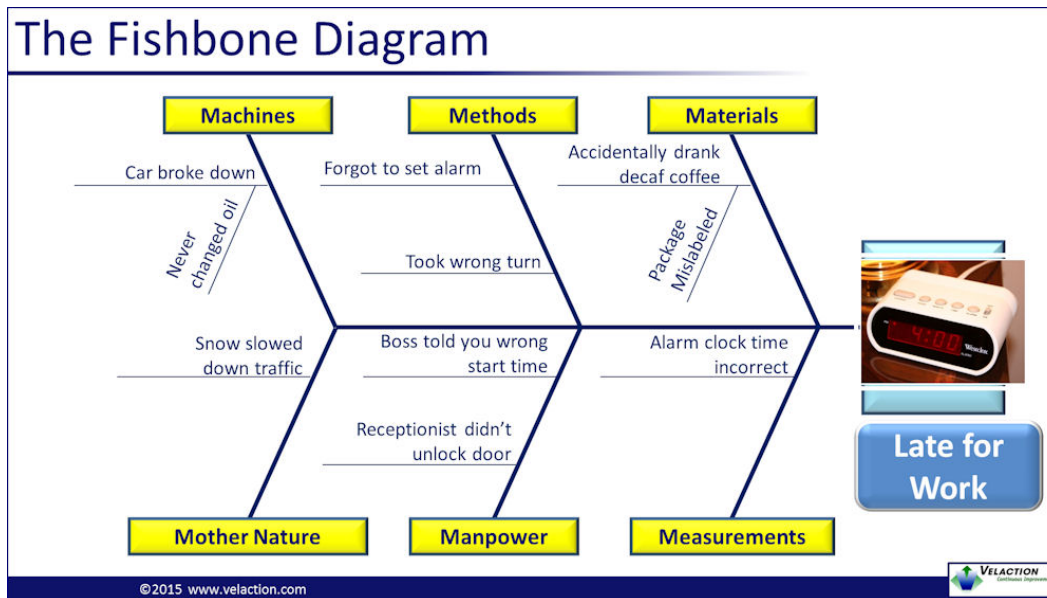


Creating a Fishbone Diagram

Once a problem (or effect) is identified via the **8 Wastes** tool, create the body of a fish on a large piece of paper (butcher block paper, flip chart pad, etc.). **The problem (effect)** is the “head” of the fish (in the example below: arriving late for work). Label the categories of the Fishbone Diagram with specific causes identified via your process map and team, and keep the **6Ms (Mother-nature, Methods, Measurements, Materials, Machine, and Manpower)** in mind.

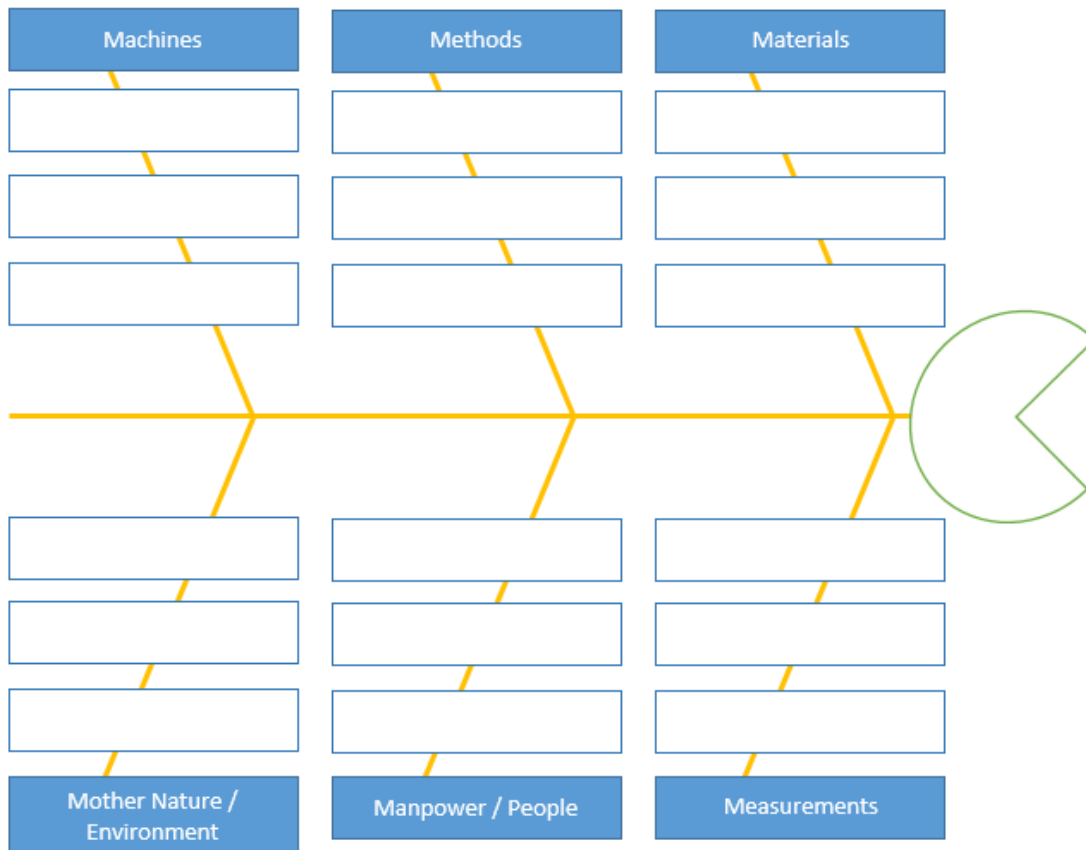
Remember, you can be creative and use categories other than those mentioned here above (i.e., Software, Market Conditions, etc.).

Example:



Notes:

In the example below, fill out the **“Fishbone Diagram”** using one of your processes’ **“Problems (Effects) and Causes”**:



Typical Transactional Cause Categories:

- Policies – high level decision making
- Procedures – step by step instructions
- Plant – physical space where the problem occurs
- People – employees or customers

Typical Manufacturing Cause Categories:

- Personnel – training & experience
- Materials – raw materials or equipment
- Measurement – gauge or inspection
- Method – procedures
- Machine – settings or tools
- Environment – nature or noises

Notes:

Helpful Hints:

- The purpose of a fishbone diagram is to:
 - Identify causes of a problem through categorization
 - Determine whether the causes are within or are outside of the control of the team/process owner
- Causes **within the control of the team/process owner** can then be prioritized for future potential investigation/waste elimination.
- A fishbone diagram can be used in a Rapid Improvement Event **after process mapping** the “current state” and identifying opportunities for improvement.
- Adjust the cause categories to fit the problem – for example, it may make more sense to use causes such as technology, vendors, and training when brainstorming causes for problems in inventory/receiving for purchasing transactions.
 - Be flexible with the categories of causes
- It may be effective for the team to brainstorm specific problems first (onto sticky notes) and then determine the categories.
- Always identify the causes in a team environment.
 - Team members should include process owners, process supervisors, practitioners, and subject matter experts

Notes:

Overview:

The 5 Whys refers **to the practice of asking, five times, why a situation has occurred to get to a root cause(s) of the problem**. It illustrates the importance of digging down beyond the most obvious cause of the problem. Failure to determine a root cause assures that you will be treating the symptoms of the problem instead of its cause—in which case, the disease will return, and you will continue to have the same problems over and over again.



Note:

1. The actual number of whys is not important, so long as you get to a root cause.
2. There can be more than one cause to a problem.

Example 1

Problem Statement: You are on your way home from work and your car stops in the middle of the road.

1. **Why** did your car stop? - Because it ran out of gas.
2. **Why** did it run out of gas? - Because I didn't buy any gas on my way to work.
3. **Why** didn't you buy any gas this morning? - Because I didn't have any money.
4. **Why** didn't you have any money? - Because I lost it all last night in a poker game.
5. **Why** did you lose your money in last night's poker game? - Because I'm not very good at poker.

Solution: Refrain from gambling.

Example 2

Problem Statement: The Washington Monument is disintegrating

1. **Why** is the Monument disintegrating? - Because of the use of harsh chemicals.
2. **Why** are harsh chemicals being used? - To clean pigeon poop.
3. **Why** are there so many pigeons? - They eat spiders, and there are a lot of spiders at the monument.
4. **Why** so many spiders? - Spiders eat gnats and there are lots of gnats at the monument
5. **Why** so many gnats? - Gnats are attracted to the light at dusk.

Solution: Turn on the lights at a later time.

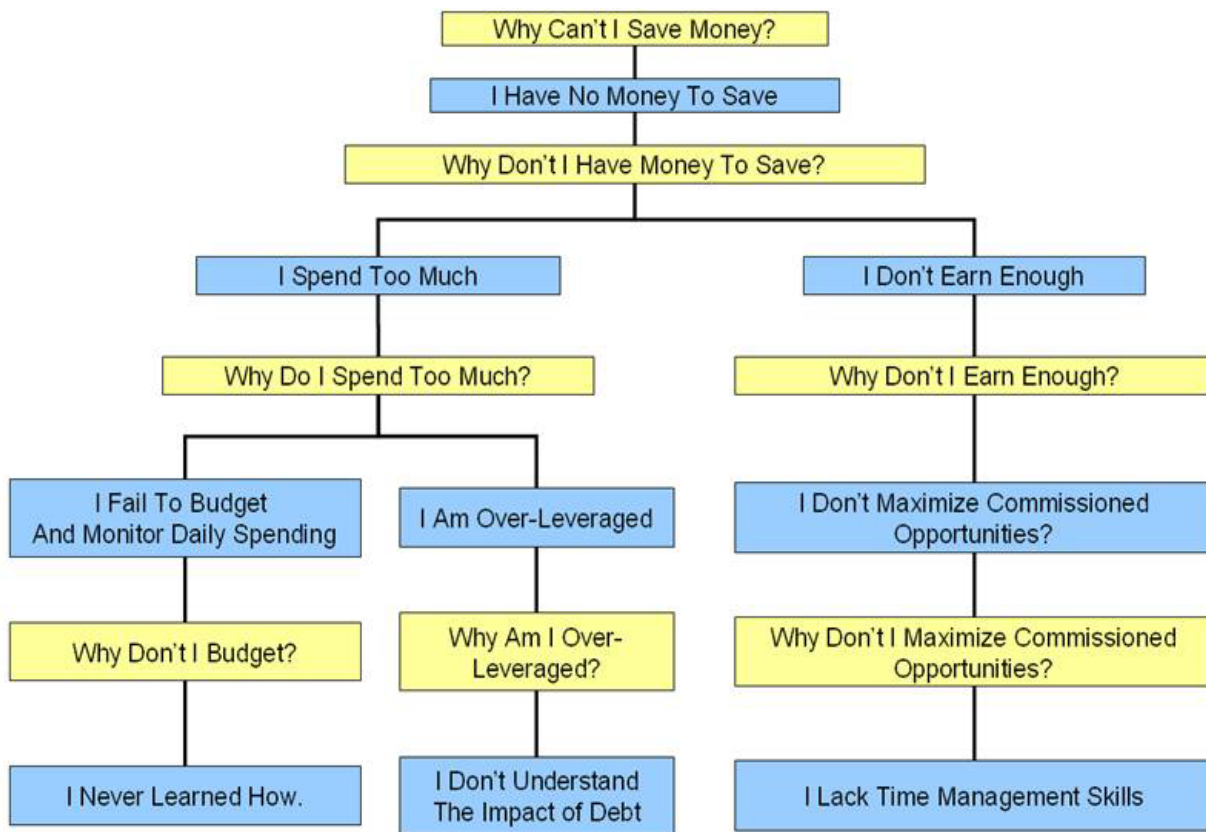
Notes:

Real life:

Problem Statement: It takes hours to fill out a TANF (Temporary Assistance for Needy Families) application for the City and County of Denver.

- 1) **Why** does it take so long? - Because the TANF application is long and applicants are distracted by their children.
- 2) **Why** are applicants distracted by their children while filling out the application? –Because there is no place for children in the room and the children sit with their parents.
- 3) **Why** are their children with them during the application process? - Because they may not be able to afford a baby sitter (which is why they need TANF in the first place).

Solution: Provide babysitting service to TANF applicant. This simple solution resulted in a reduction in the application time.



A 5 Whys Tree can be used to explore multiple Whys. There could be numerous pathways to explore the reasons why a problem occurred and multiple causes to a problem; this tool can help visualize these multiple root causes.

Notes:

Problem Statement:



Why did this occur (1):

Why did this occur (2):

Why did this occur (3):

Why did this occur (4):

Why did this occur (5):

Root Cause

Notes:

Communication Circles are a visual representation of the communication steps that occur between departments, staff and customers during a process. The Communication Circle will:

- Identify all the major actors (or who) is in the process
- Define the types of communication which will be used and to whom
- Help find possible bottlenecks and the need for centralized communication



How to create a “before and after” Communication Circle:

It is simple. On a large piece of paper, draw a large circle and write the name of the people or part of the organization that is involved in each process or transition. Connect the individuals and organization by drawing a line to each player as you move your way through the process.

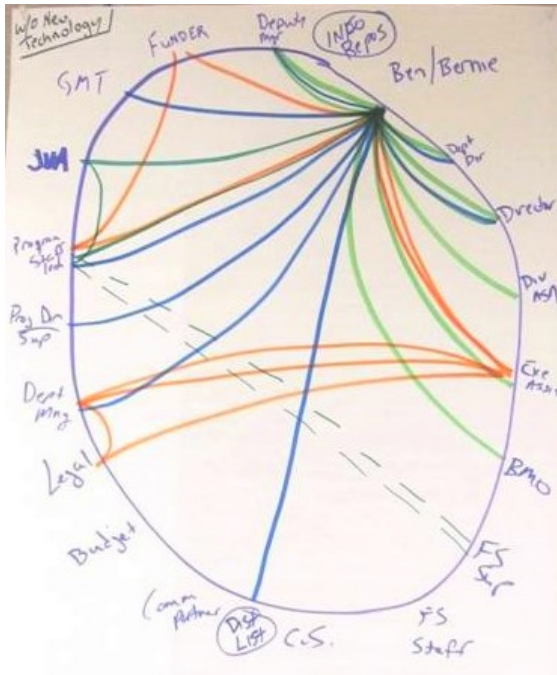
- Utilize different colors to define different types of communication (email, phone) or use different colors to define who is communicating. (Include a legend)
- Use arrows to show the direction of the communication.

BEFORE



- Assess the circle for excess movement, process, stops or bottlenecks
- How many people are involved?
- How many forms of communication and how many transactions.
- Can you eliminate any steps?
- When complete, draw a new communication circle and compare

AFTER



- Fewer bottlenecks
- Less points of contact
- Less cross communication

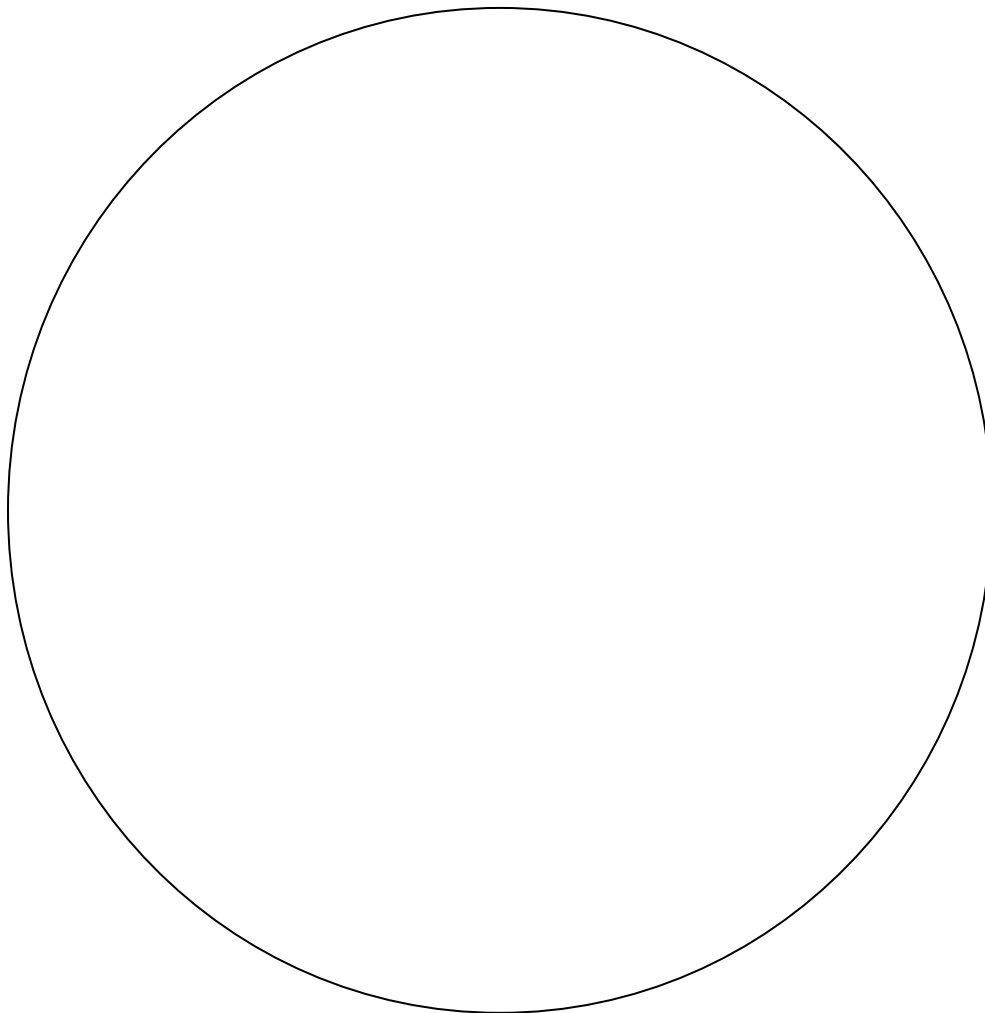
Helpful hints:

- Use the title of the section or division, not individual's names.
- Draw a large circle. You will be surprised how many people or customers are involved.
- Remember, you are looking for redundant and duplicative communications as well as bottlenecks that can be alleviated.

Create a communication circle!

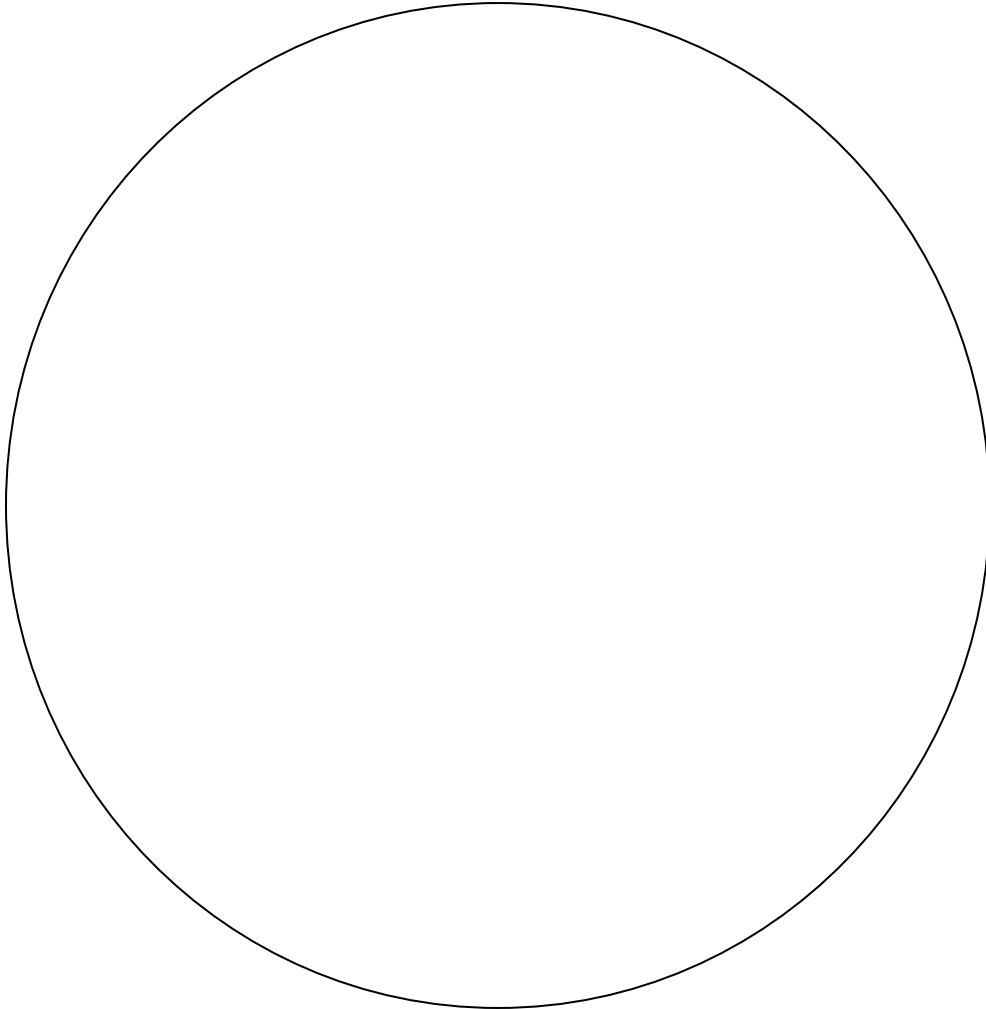
- List all titles of positions, agencies and any other points of contact around the outside of the circle
- Use the different colored pens/markers to define types of communication or to differentiate who is communicating, create a legend
- Use arrows to show the direction of the communication

“Process Name” Communication Circle
Current State *“Date”*



- Identify bottlenecks, unnecessary communication & points of contact and eliminate
- Create future state communication circle

***“Process Name”* Communication Circle**
Future State



System of Work Overview

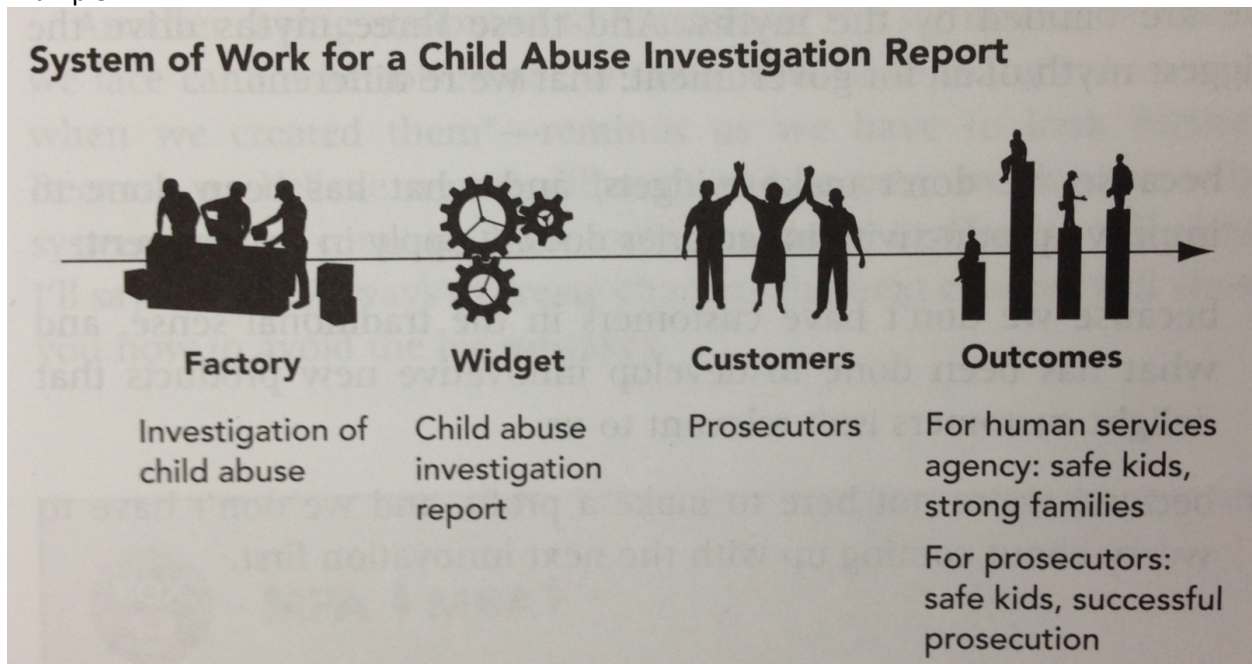
Organizations are collections of systems that produce hundreds of widgets. By improving the systems, we can improve the organization.

A System Of Work (SOW) shows a high-level overview of a process and is made up of four (4) components:

Factory → Widget → Customers → Outcomes

Identifying a System of Work will help explain your process (Factory), what that process produces (Widget), who you're producing the widget for (Customer), and your measurable results of the process (Outcomes).

Example:



Identify one of your Systems of Work:

Factory	Widget	Customers	Outcomes

Notes:

Voice of the Customer Overview

The Voice of the Customer (VOC) is what the customer wants & requires from your product/service. This is translated into actionable terms to deliver an improved widget and process.

Anyone who receives and/or uses your products or services is a customer. There are two types of customers:

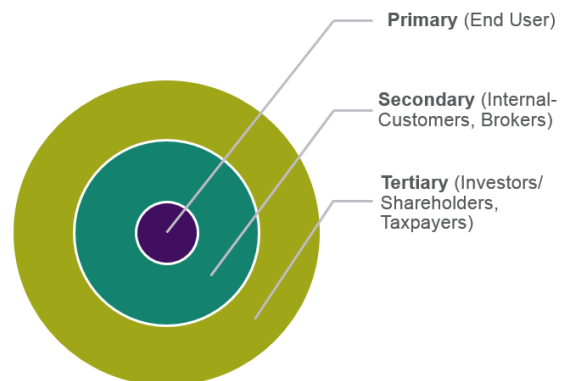
- *Internal Customers:*
 - People or processes downstream from you, but still within your organization
 - Internal customers are important, but their requirements should be analyzed and understood as they may be creating unnecessary waste
- *External Customers:*
 - People, organizations, or processes outside your organization
 - External customers are usually the ones who are “paying” for the products or services

Customers also fit into two distinct roles:

- *End users*
 - Most important customers- those for whom the widget was designed
 - Personally uses the widget to achieve the desired outcome
- *Brokers*
 - Acts as agent for your product or service, transferring it to the end user
 - Makes the widget easier to use, more appealing, and/or more accessible; encourages the end user to accept the product

Who is the customer?

- Customers may be seen as “primary” or “secondary” based on their role. End Users are primary because they are the entity that the product or service is designed for
- In addition to customers, there are also “Investors” who play an important, though indirect, role in helping to meet customer demand



Listen to the Voice of the Customer

Focus on listening to what is important to the customer, including their:

Wants | Needs | Perceptions | Expectations | Requirements

Strategies for getting the customer’s thoughts include:

Comment Cards | Customer Complaints | Focus Groups | Requests for Rework | Secret Shoppers | Online Reviews (e.g. Yelp, Google, Facebook) | 311 Data

Notes:

Batching vs One-Piece Flow

Batching is the completion of multiple units of work before moving them on to the next step in the process, where **One-Piece Flow** is the completion of a single unit of work before moving it on to the next step in the process.

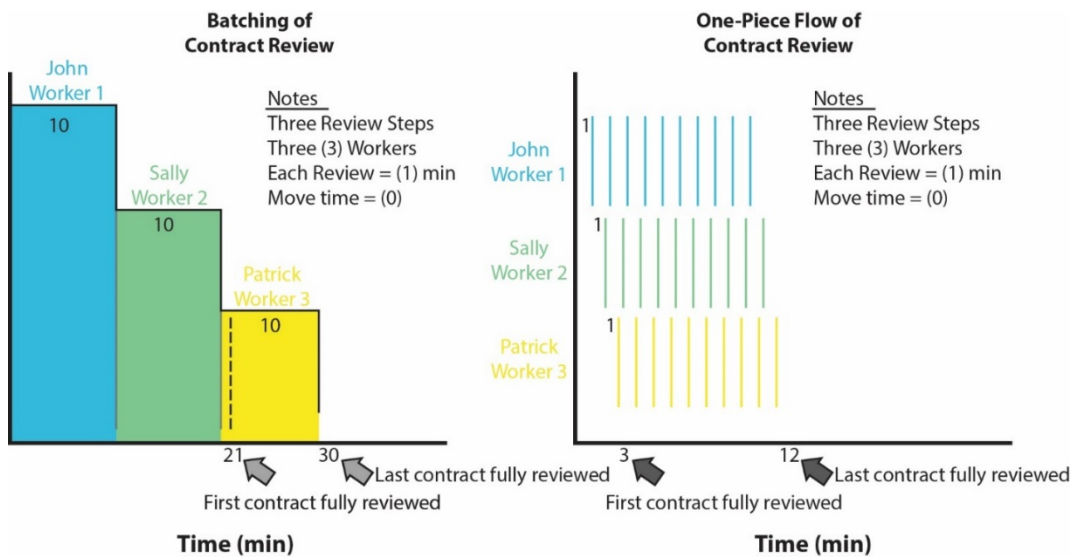
Though it is sometimes difficult to achieve One-Piece Flow in our work environments, One-Piece Flow is the ideal state for our process. In a process that utilizes One-Piece Flow, we're able to deliver value to our customer faster (pull).

Example

The below graphic helps to illustrate why One-Piece Flow is better for our customers. In this example, there are 10 pieces moving through 3 operations in the process. Each piece takes 1 minute to process.

In the **Batching** process on the left, the contracts are reviewed in batches (groups) of 10. **Worker 1, John**, reviews all 10 contracts before he passes them along to **Worker 2, Sally**. **Sally** then reviews all 10 contracts before she passes them on to **Patrick, Worker 3**. Because each contract takes 1 minute to review per worker, the first contract is fully reviewed after 21 minutes while all 10 contracts take 30 total minutes to review.

In the **One-Piece Flow** process on the right, the first contract is reviewed by **Worker 1, John**, and then immediately passed to **Worker 2, Sally**, and then on to **Worker 3, Patrick**. As soon as **John** reviews a contract and passes it to **Sally** for her review, **John** begins reviewing another contract. One-Piece Flow essentially creates an assembly line for the pieces to flow through the process. With each contract taking 1 minute to review per worker, the first contract is fully reviewed after only 3 minutes with all 10 contracts only taking 12 total minutes to review. (Graphic adapted from [Ortho Clinical Diagnostics Jan '08](#))



Notes:

Overview:

For a process to achieve high-quality, each step in the process must have a high-quality output. During the completion of a widget, additional work along the way (due to errors, edits, loss, requests for more info, etc.) requires more labor time and resources to produce a completed widget, thus affecting our rolling first-time yield. Traditional yield calculations (# completed correctly at the end / # started in the beginning) don't account for this "hidden factory" of rework, and thus don't provide an accurate depiction of the waste in the process.

Rolling First-Time Yield (a.k.a. Rolling Throughput Yield or First-Pass Yield) calculates the percent of time a product or service is completed without any rework or re-handling during the process. Rolling First-Time Yield (RFTY) indicates the efficiency of a process and can be used for identifying improvement opportunities within a process.

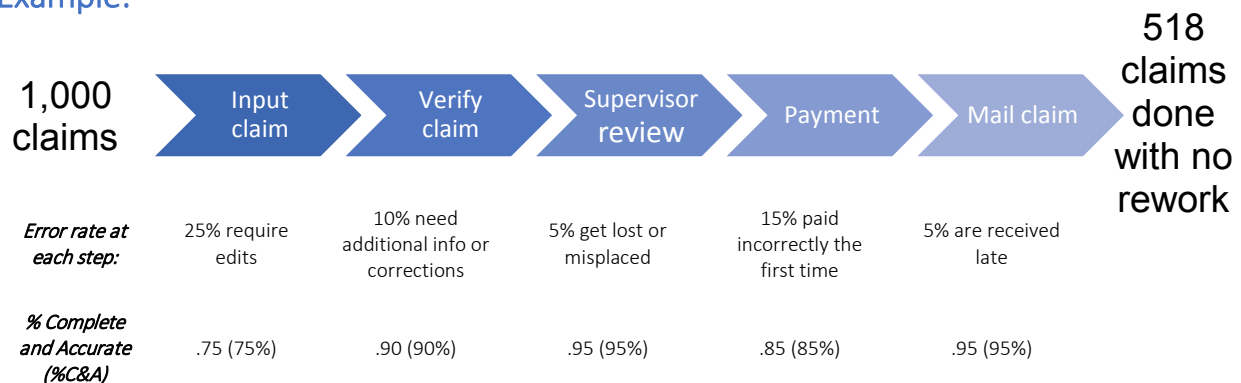
How to Calculate Rolling First-Time Yield:

First, determine your error rate (as a %) for each step of the process. Errors occur any time there are corrections, requests for missing information, misplaced documents, or some other form of rework (e.g. delays). Subtract your error rate from 100% to determine your *Percent Complete & Accurate (%C&A)* for each step of the process.

Rolling First-Time Yield is computed by multiplying each %C&A together. For five process steps, each with its own %C&A:

$$\text{Rolling First-Time Yield} = \%C\&A_1 * \%C\&A_2 * \%C\&A_3 * \%C\&A_4 * \%C\&A_5$$

Example:



Notes:

In the above example, each step requires some sort of additional work or has a defect associated with it.

We calculate the Rolling First-Time Yield by multiplying the % correct at each step of the process

$$0.75 (\%C\&A_1) * 0.90 (\%C\&A_2) * 0.95 (\%C\&A_3) * 0.85 (\%C\&A_4) * .95 (\%C\&A_5) = 0.5178 \text{ or } 51.78\% (\text{RFTY})$$

In this case, 51.78% of the claims that enter this process are completed without any additional rework, delays, or other defects. When we multiply this by the number of claims we receive (1,000) we find the number of claims completed with no rework throughout the process.

$$.5178 * 1,000 = 518 \text{ claims done with no rework}$$

Get started with calculating your Rolling First-Time Yield

<p>Identify the steps of your process that contain errors (rework, requests for additional information, data entry errors, edits, misplaced documents, other forms of delay)?</p>	
<p>What is your error rate for each of these steps (display this as a %)?</p> <p>If you don't know your error rate, how will you determine your error rate for each step of the process?</p>	
<p>Calculate your Rolling First-Time Yield for your process. Use the example on the previous page to help you with this calculation.</p>	
<p>How many widgets total go through your process?</p>	
<p>How many widgets go through your process without any errors or rework? (# of widgets that go through your process * RFTY)</p>	

Notes:

What is Mistake Proofing?

Mistake proofing is **any action taken that can help people (staff and customers) avoid making a mistake.**

This method is one of the most commonly used tools in our everyday lives. Take a look at some of the examples below to get a better idea.



The bar and message are a clear warning for vehicles that are too tall, prevents damage to the parking structure and vehicle



Only one drawer can be open at a time, to prevent tipping and smashing of fingers



*The Diesel nozzle in **blue** is designed so that it cannot fit into a car that takes regular gasoline, like the one in **green***



The paper container lid is shaped so that you cannot physically put a bottle or other type of recycling into the bin

Practice with your ideas for mistake proofing on the next page.

Notes:

What kinds of common mistakes are in a process that you own or are involved in?

Describe some examples of mistake proofing for the errors you wrote above?

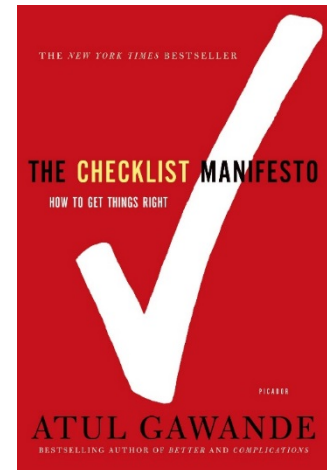
Draw a picture of what your mistake proofing could look like:

Overview:

We often resist setting standard work because of the natural variation in our jobs; why add more by having no structure or routine? A checklist can maintain these routines and behavior, allowing us to be more proactive than reactive.

Checklists can:

- Prevent errors and oversight
- Make priorities clearer
- Reduce variation and increase consistency
- Allow you to go through an entire process without overlooking any essential steps



Making a Checklist:

- Define a clear point at which the checklist is supposed to be used, unless the moment is obvious, like when a **warning light/icon goes on** or an **engine/hard drive fails**.
- With any new checklist created from scratch, you should pick the type that makes the most sense for the situation.
- Keep it SIMPLE.

Two Types:

<u>Do – Confirm</u>	<u>Read - Do</u>
Team members perform their jobs from memory and experience—often <i>separately from the checklist</i> . After that point they <u>stop</u> . They then pause to confirm against the checklist that everything was done.	People carry out the tasks as they check them off – it’s more like a recipe.

Helpful Hints:

- Keep checklists simple, visible, accessible, and easy-to-read.
- 6S your time- what do you spend your time on? How can it be managed more effectively?
- Review completed checklists with your manager.
- Make the checklist dynamic and representative of what’s needed.
- Always look for ways to modify it - what could be added, dropped, or modified?

Notes:

Example of a Daily/Weekly/Monthly Checklist

Daily Standard Work				
Monday	Tuesday	Wednesday	Thursday	Friday
E-Mail	E-Mail	E-Mail	E-Mail	E-Mail
EPG	EPG	EPG	EPG	EPG
WMS Transfer Workgroups (L)	WMS Transfer Workgroups (L)	WMS Transfer Workgroups (L)	WMS Transfer Workgroups (L)	WMS Transfer Workgroups (L)
Case Review(s)	Case Review(s)	Case Review(s)	Case Review(s)	Case Review(s)
Kronos (S)	Stand Ups (S)	Kronos (S)	Stand Ups (S)	Kronos (S)
Exception Report (L)	Exception Report (L)	Exception Report (L)	Exception Report (L)	Exception Report (L)
CRM Status Check		CRM Status Check		CRM Status Check
WMS Queue (L)		Projection check point		WMS Queue (L)
CMC Progress Update (L)				
Morale/positive reinforcement/support & floor presence	Morale/positive reinforcement/support & floor presence	Morale/positive reinforcement/support & floor presence	Morale/positive reinforcement/support & floor presence	Morale/positive reinforcement/support & floor presence
Communication between Sups/teams/units/ offices & Lead delegation	Communication between Sups/teams/units/ offices & Lead delegation	Communication between Sups/teams/units/ offices & Lead delegation	Communication between Sups/teams/units/ offices & Lead delegation	Communication between Sups/teams/units/ offices & Lead delegation
E.F/OED/CSE/CRM 2 day notification (L)	E.F/OED/CSE/CRM 2 day notification (L)	E.F/OED/CSE/CRM 2 day notification (L)	E.F/OED/CSE/CRM 2 day notification (L)	E.F/OED/CSE/CRM 2 day notification (L)
Weekly Standard Work				
Week 1	Week 2	Week 3	Week 4	Week 5
CRM Report (L)	CRM Report (L)	CRM Report (L)	CRM Report (L)	CRM Report (L)
Standard Work				
<u>As Needed</u> Hearings (L), Personnel Issues/HR duties Non Systems Claims Issuances/Cancelations(L) Audit Responses (L) Sup Auth/Restricted Cases (L) Attend & Conduct Training (L) WMS Task Reassignment CBMS program /knowledge/Issues Fraud/IPV Dw214 (L) Help Desk Tickets/Client Escalations Coverage Sup/Mgr		<u>Monthly:</u> Supervision with Managers 1:1 with CMC's Meetings PEPR's building WMS calendars Peak Projections Desk Audits		<u>Special:</u> IAR's , EBT Monitor Same Day

Notes:

Overview

Nudge Techniques, also known as Behavioral Insights, is the idea that how choices are presented to individuals greatly impacts the types of decisions that they will make. By being mindful of how choices are presented to others, one can increase the chances that a given outcome will result. We call the various strategies used to frame these choices the “Behavioral Insights Technique.” This technique is called the EAST Framework and was created by the Behavioral Insights Team and is structured into four categories (Easy, Attractive, Social, and Timely):

Easy

People are naturally drawn to options that require the least from them in terms of time and/or resources. The higher the friction cost (the relative difficulty associated with a given option), the less likely someone is to choose that option. By making the option we hope someone will choose easier, we make it more likely they will take that course of action.

Example:

By making it a default that new retirees would receive their pay stubs via email rather than physical mail, the Denver Employees Retirement Plan was able to save over \$80,000 a year.



Strategies for Making Choices Easy

- **Checklists:** Checklists help us remember important steps in a process, particularly in stressful situations.
 - *How to Apply:* Create a list of the five to nine items, crucial to the completion of a task, that can be ticked off when completed.
 - *Example:* Checklists for airplane pilots have reduced errors and accidents.
- **Substitution:** It is easier for us to substitute a similar behavior than to eliminate an entrenched one.
 - *How to Apply:* Encourage people to switch from using one product to a similar product that makes them healthier, wealthier or happier.
 - *Example:* Getting people to switch from cigarettes to e-cigarettes may be easier than getting them to quit nicotine altogether.
- **Ordering Effects:** The positioning of a piece of information (i.e. what comes before or after it) influences how it is perceived.
 - *How to Apply:* Put the best choices first or last: their ‘primacy’ or ‘recency’ can encourage people to choose them.
 - *Example:* Placing a healthy food item at the top or bottom of a menu increased its popularity.
- **Chunking:** We find it easier to achieve complex goals if they are broken up into subgoals.
 - *How to Apply:* Break up a complex challenge into more manageable ‘chunks.’
 - *Example:* Jobseekers were more successful at finding jobs when the task was broken down into manageable steps (e.g. improve and update resume).
- **Goal-Setting:** We are more likely to achieve objectives if we are given a specific goal.

- *How to Apply:* Set an individual or an organization a clear, challenging goal (ideally one that can be measured).
- *Example:* Experienced marathoners who were asked about their goal in a pre-marathon survey ran six minutes faster than those who were no asked about their goal.
- **Simplification:** We are more likely to take action when it's easy for us to do so (and when it is 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.
- **Friction Costs:** We can be deterred from taking an action by seemingly small barriers (like filling in an extra form).
 - *How to Apply:* Reduce the hassle factor or frictions in a system to encourage uptake.
 - *Example:* Sending taxpayers directly to a form, rather than a website that contains the form, increased response rate.
- **Defaults:** We tend to 'go with the flow' of a pre-set option:
 - *How to Apply:* Change the default setting to encourage more positive behavior.
 - *Example:* Automatically enrolling people into workplace retirement plans increased the number of savers.

Give it a try: What can you do to make your process easier for your customers?

Easy Strategy	If we...	... then we
Checklist	<i>If we...</i>	<i>... then we</i>
Substitution	<i>If we...</i>	<i>... then we</i>
Ordering Effects	<i>If we...</i>	<i>... then we</i>
Chunking	<i>If we...</i>	<i>... then we</i>
Goal-setting	<i>If we...</i>	<i>... then we</i>
Simplification	<i>If we...</i>	<i>... then we</i>
Friction Costs	<i>If we...</i>	<i>... then we</i>
Defaults	<i>If we...</i>	<i>... then we</i>

Attractive

By framing information in a particular way an individual may perceive a given choice more positively and make a different decision than they would have otherwise made (i.e. if a patient is told there is a 90% chance of survival with a given surgery, rather than being told that 10% of the people who undergo the surgery do not survive).



Example:

By celebrating the achievements of City workers in Denver during an Innovation Fair, the idea of doing things different was made more attractive

Strategies for Making Choices More Attractive

- **Framing Effect:** We react differently to the same information, depending on how it is framed.
 - *How to Apply:* When encouraging a positive behavior, frame it in a way that is appealing.
 - *Example:* Food described as 99% fat free may be evaluated more favorably than food described as 1% fat.
- **Scarcity:** We are more attracted to goods if we believe supply is limited.
 - *How to Apply:* Highlight scarcity of goods to make them more attractive.
 - *Example:* Noting the limited timeframe in which a government program was available increased sign-up rates.
- **Personalize:** 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 a text message increased the payment rates of court fines.
- **Mental Accounting:** We think of money as being allocated for different categories rather than as being interchangeable across categories.
 - *How to Apply:* Encourage people to set aside money into different 'mental accounts' to help them achieve financial goals.
 - *Example:* Dividing money into two envelopes—one which was designated for savings—increased the total amount of money people saved.
- **Lotteries:** Lotteries are effective because we tend to overweight the likelihood of rare events, and focus more on the prize than the probability.
 - *How to Apply:* Give participants a chance to win a few, big prizes.
 - *Example:* Entering people into a lottery encouraged more people to lose weight than standard incentives.
- **Loss Aversion:** We dislike losses more than we like gains of an equivalent amount.
 - *How to Apply:* Focus on the potential loss associated with an action or lack of action ('it will cost you X'), rather than the potential benefit.

- *Example:* Paying teachers in advance of the school year, but requiring them to return the money if their students did not do well, enhanced teacher performance.
- **Saliience:** Our attention is drawn to what is novel and seems relevant to us.
 - *How to Apply:* Make the most important information or required action stand out so that it attracts attention.
 - *Example:* Putting a handwritten message on the outside of envelopes increased the number of people who paid their tax on time.
- **Endowment Effect:** We tend to value objects we already own more than equivalent objects we do not yet own.
 - *How to Apply:* Give a person something or increase their sense of ownership so that they value it more.
 - *Example:* People given a coffee mug were, on average, willing to sell it at higher prices than others were willing to pay for it.

Give it a try: What can you do to make your process more attractive for your customers?

Easy Strategy	If we...	... then we
Framing Effect	<i>If we...</i>	<i>... then we</i>
Scarcity	<i>If we...</i>	<i>... then we</i>
Personalize	<i>If we...</i>	<i>... then we</i>
Mental Accounting	<i>If we...</i>	<i>... then we</i>
Lotteries	<i>If we...</i>	<i>... then we</i>
Loss Aversion	<i>If we...</i>	<i>... then we</i>
Saliience	<i>If we...</i>	<i>... then we</i>
Endowment effect	<i>If we...</i>	<i>... then we</i>

Social

Most people will assume that decisions made and affirmed by others have a given level of merit or desirability, at least when compared to options that others have rejected. It takes a certain type of individual to take the path less traveled or stray from the herd.

Example:

By creating a production board, the Accounting Services team for the City of Denver was able to increase flow in their inventory management process



Strategies to Make Choices More Social

- **Feedback:** We are more likely to achieve a goal if provided with timely, structured feedback on how we are performing in relation to that goal.
 - *How to Apply:* Create quick feedback loops that enable individuals and organizations to monitor their performance.
 - *Example:* Student given regular and constructive feedback on their English and Math substantially improved their performance.
- **People Helping People:** Public services can be delivered more efficiently and effectively by encouraging citizens to support one another.
 - *How to Apply:* Redesign public services to make mobilizing the public's contribution a core principle.
 - *Example:* King's College Hospital's volunteering program generated a big return on investment by getting volunteers to provide practical help to patients and visitors.
- **Messenger Effect:** We are heavily influenced by the communicator of information.
 - *How to Apply:* Enhance the effect of a message by considering who the individual or organization conveying the information is.
 - *Example:* People were more likely to sign up to the Army Reserve when sent an email from a real and named officer.
- **Commitment Contracts:** When we actively commit to achieving a goal, we are more likely to achieve it, especially if the commitment is paired with a penalty for failure.
 - *How to Apply:* Encourage someone to commit to and write down a goal, then to set a penalty for failing to achieve it.
 - *Example:* Smokers who made a commitment to quit (and agreed to forfeit money if they failed to do so) were more likely to be successful.
- **Relative Ranking:** We are influenced by how our performance compares with others', especially those with similar characteristics to ourselves.
 - *How to Apply:* Give people feedback on how their behavior compares to their peers, friends, or colleagues.
 - *Example:* Doctors prescribed fewer antibiotics after they had been made aware that they were in the top 20% of antibiotic prescribers in their local area.
- **Network Nudge:** We are influenced by the behavior of friends and friends of friends.
 - *How to Apply:* Tap into the social networks of the individuals you are seeking to influence.

- *Example:* Those who were asked to donate to charity by colleagues who had already donated were more likely to donate.
- **Reciprocity:** We have an inherent desire to help those who have helped us in some way.
 - *How to Apply:* Offer help or a gift to someone to encourage them to give something back.
 - *Example:* People were more likely to join the Organ Donor Register if they were asked, 'If you needed an organ transplant, would you have one? If so, please help others.'
- **Descriptive Norm:** 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.

Give it a try: What can you do to make your process more social for your customers?

Easy Strategy	If we...	... then we
Feedback	<i>If we...</i>	<i>... then we</i>
People Helping People	<i>If we...</i>	<i>... then we</i>
Messenger Effect	<i>If we...</i>	<i>... then we</i>
Commitment Contracts	<i>If we...</i>	<i>... then we</i>
Relative Ranking	<i>If we...</i>	<i>... then we</i>
Network Nudge	<i>If we...</i>	<i>... then we</i>
Reciprocity	<i>If we...</i>	<i>... then we</i>
Descriptive Norm	<i>If we...</i>	<i>... then we</i>

Timely

The idea of making something timely is that individuals are more receptive to messages at certain times in their lives than they are at others.

Example:

By sending a message that read “‘I’d rather be waiting at the DMV during the holidays’, said NO ONE EVER” to city residents who needed to renew their licenses near the holiday, online renewals greatly increased



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

Strategies to Make Choices Timely

- **Priming:** Our actions can be influenced by subconscious cues.
 - *How to Apply:* Expose individuals to sights, words or sensations that encourage positive behaviors.
 - *Example:* People contributed more money in exchange for coffee they consumed when a picture of a pair of eyes was displayed.
- **Anchoring:** Exposure to a number influences subsequent judgements.
 - *How to Apply:* Encourage greater levels of effort by setting higher initial ‘anchors.’
 - *Example:* Decisions by legal experts on the length of a prison sentence were influenced by the number they threw on a dice.
- **Deadlines:** We are more likely to achieve goals if we have a clear deadline.
 - *How to Apply:* Give people an expiry date or deadline for the use of a service or completion of a task.
 - *Example:* People given coupons with expiry dates were more likely to use them than those given coupons without a deadline for their use.
- **Head Start:** A head start can help us achieve our goals by making it feel like we are making progress.
 - *How to Apply:* Give people a head start so that they are more likely to finish a task or process.
 - *Example:* Coffee stamp cards with 12 boxes, of which 2 are pre-stamped, are completed more quickly than coffee stamp cards with 10 unstamped boxes.
- **Prompts:** 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%.
- **Foot-In-The-Door Technique:** If we comply with an initial small request, we are more likely to comply with a later, larger request.
 - *How to Apply:* Make an initial, small request before making a larger request.
 - *Example:* People asked to sign a petition for a good cause were more likely to donate to that cause at a later point in time.
- **Implementation Intention:** We are more likely to do something when we specify how, when and where we will do it.

- *How to Apply:* Get someone to spell out when, where, and how they will do something (e.g. vote, or get a flu shot).
- *Example:* Encouraging people to write down the time and date they will go to get a flu shot increased uptake.
- **Present Bias:** We disproportionately prefer rewards that come sooner and costs that are borne later.
 - *How to Apply:* Encourage positive behaviors today by moving the costs into the future.
 - *Example:* Save More Tomorrow encourages individuals to commit to future increases in pension contributions (rather than having to make a sacrifice today).

Give it a try: What can you do to make your process more timely for your customers?

Easy Strategy	If we...	... then we
Priming	<i>If we...</i>	<i>... then we</i>
Anchoring	<i>If we...</i>	<i>... then we</i>
Deadlines	<i>If we...</i>	<i>... then we</i>
Head Start	<i>If we...</i>	<i>... then we</i>
Prompts	<i>If we...</i>	<i>... then we</i>
Foot-In-The-Door Technique	<i>If we...</i>	<i>... then we</i>
Implementation Intention	<i>If we...</i>	<i>... then we</i>
Present Bias	<i>If we...</i>	<i>... then we</i>

What is Visual Management?

Visual Management is a set of controls designed to create a transparent and waste-free environment. The three basic fundamentals of visual management are:

1. a signal is made
2. a person detects that signal, and
3. appropriate action is taken.

One of the primary uses of **visual management** is to create process control and thus ensure consistency. The three mechanisms of process control are:

1. knowing who does what,
2. knowing when to act, and
3. knowing how to deal with exceptions.

The potential benefits of visual management include:

1. Showing productivity in “real-time”
2. Providing transparency to the process
3. Improving customer service improvement
4. Increasing “flow” in the process
5. Lowering operational costs
6. Promoting a safer workplace
7. Empowering employees



The traffic signal above is an “Andon” run by a computer and specifically acts as a stop-and-go signal to cyclists in traffic situations

Types of Visual Management Systems

Kanbans (A Japanese term meaning “billboard”) create **PULL** and **FLOW** in a process/project in order to reduce lead times, increase passive communication, and decrease the overall wastes in the building, monitoring, and sustainment of a process/project.



Notes:

Andons (Japanese term, “Lantern”) are used to alert teams about issues or opportunities for change via a light based system. Additionally, they can be used as signals to manage traffic situations, the staff at Starbucks via a computer-generated timer, or customers looking for open check-out lanes at the supermarket.



Production Boards are used to rally and focus teams around a mission and strategy. Like scoreboards, they track success against the competition, Wildly Important Goals (WIGs), or Peak Performance Metric. They help facilitate consistent, innovative, and accountable team huddles.



TPSR

APP CELL QA

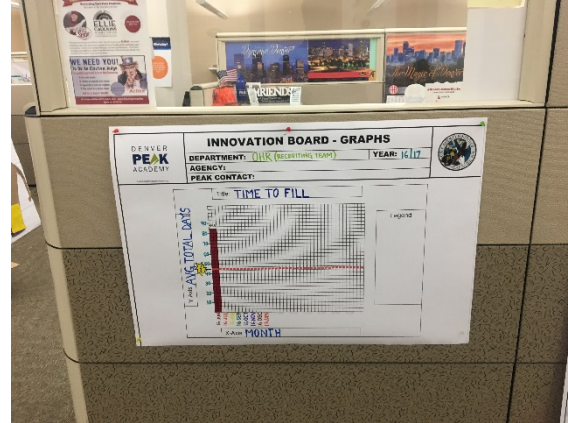
Team Obj. Goal: 98% accuracy, 100% Research, 0% Defect Index

Worker	Accuracy Goal	Actual Accuracy Rating	Total Errors	TYPE	Comments
1	98%	100	0		
7	98%	100	0		
8	98%	100	0		
13	98%	100	0		
427	98%	100	0		
1234	98%	100	0		
1492	98%	100	0		
1913	98%	100	0		
2412	98%	100	0		
5000	98%	100	0		

* Board updated as QA is completed

Last Updated: Oct 31, 2012

Notes:



How Do You Create Visual Management Systems?

When creating a visual management system, it is important to establish what information needs to be communicated. The order to follow is:

1. Define critical information
2. Create a signal
3. Select a desired medium (light, sound, etc.)
4. Define the appropriate action
5. Communicate actions

The type of visual management system to be used can vary depending on the organization. The three main types mentioned above (Production Boards, Kanban, and Andon) are three of the more popular options.

Helpful Hints

- Be mindful of company culture when creating visual indicators. Make sure to avoid offensive symbols or language.
- Implement reward systems. Most employees are more inclined to follow the queues of a visual management system when rewards are given occasionally.
- Place signals where the information makes the most sense.
- Keep visual management current and do not over use indicators or signals.
- Be creative! There are several different types of visual indicators such as diagrams or pictures, checklists, videos, and signs. Each type has its own benefits and weaknesses. Choose the one that makes the most sense for your workplace.

Notes:

How might you apply the three types of ***“Visual Management Systems”*** (Production Board, Kanban, and Andon) in your work environment?

In the box below, design and draw out 3 of your own ***“Visual Management Systems”*** to help manage or rally around a team process/WIG:

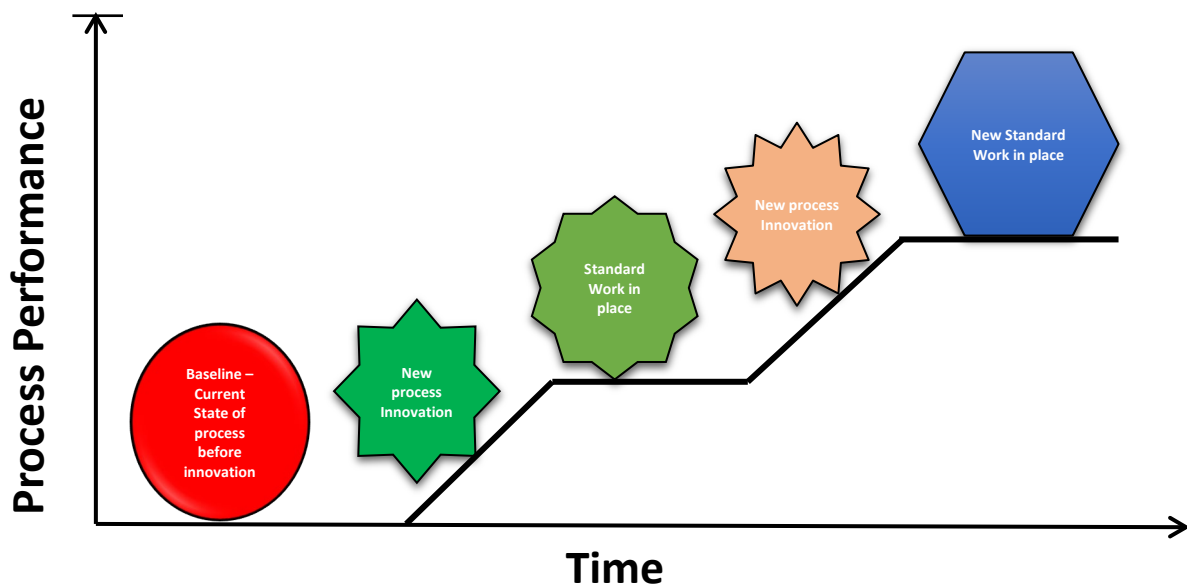
Overview:

Standardized work documents the current best practice to perform a particular task, (i.e. a checklist to lead someone through the task). As the standard is improved, the new standard becomes the baseline for further improvements.¹

Standardized work consists of the following:

- The only acceptable way to do the process described.
- Expectation to be continually improved.
- Includes the amount of time allotted to hand-off the task to the next step of the process.
- Focuses on the employee, not the equipment or materials.
- Reduces variation, increases consistency.

Ideal State



How to create “Standard Work”:

Define the extent of the task for which you are creating standard work: (BEGINNING – END)

- Standard work for key tasks in a multi-function process.
- People doing the same job will use the same standard work.
- The end point will be the starting point for the next task in the work sequence.

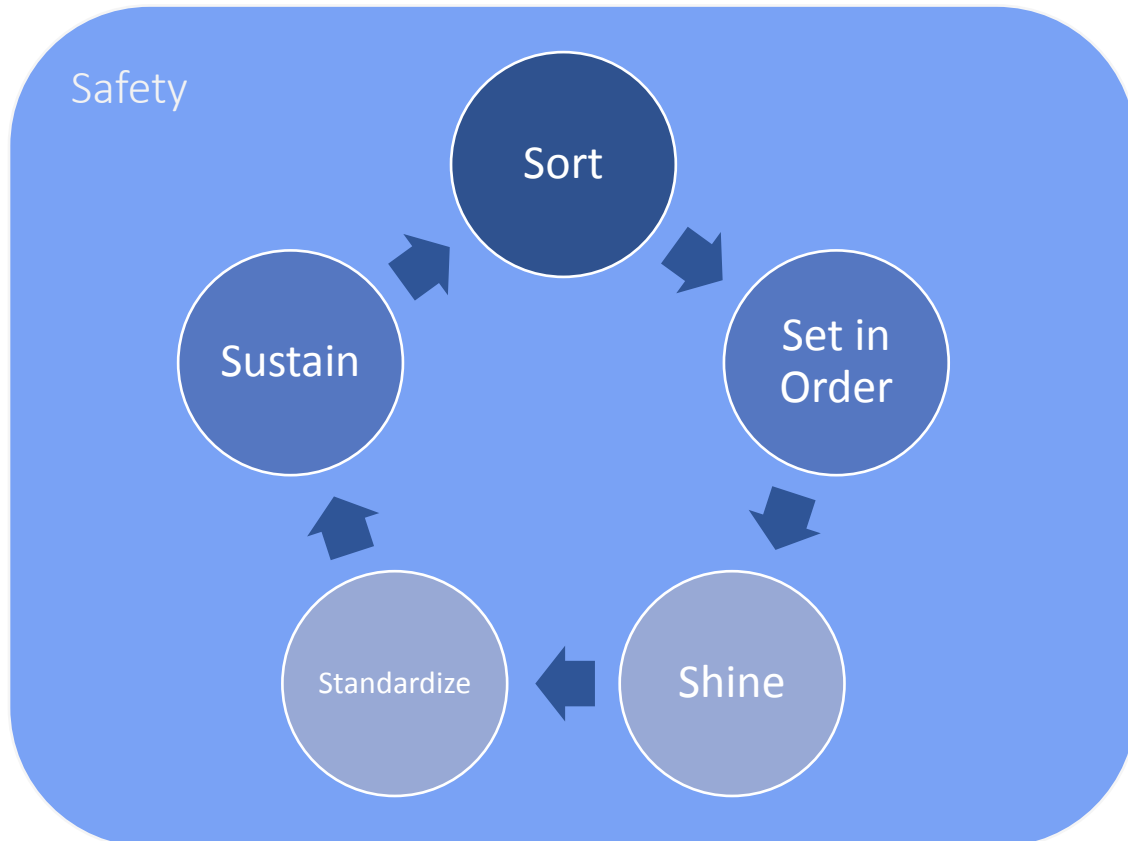
Notes:

¹ <http://www.lean.org/Workshops/WorkshopDescription.cfm?WorkshopId=20>

6-S is a tool used to eliminate waste and improve a workspace by organizing supplies, tools and information in an easy and efficient manner.

The six characteristics of a **6-S** are:

Sort, Set in Order, Shine, Standardize, Sustain and Safety.



Sort:

What does not belong?

- Separate unnecessary from the necessary.
- Remove things not required for the process.
- Add things that are missing- is the inventory appropriate?
- Discard or recycle junk.
- **'Red Tag'** items
 - Place tags on items that you are unsure about or may need input from others before discarding (*i.e. items that are possibly needed or might be helpful to others*).

Notes:

Things to consider:

- Unneeded equipment, tools, furniture, etc.
- Unneeded items on walls, bulletin boards, etc.
- Items Present in aisles, stairs, corners, etc.
- Unneeded inventory, supplies, materials or junk.
- What hazards exist?

Set in Order:

Where does it belong?

- Provide the tools needed at each workspace.
- Organize the workspace so it is convenient to complete the work.
- **Standardize** workstations where similar work is done.
- Centrally locate shared items so they are convenient for everyone who uses them.
- Take doors off of cabinets so items are easy to spot and retrieve.
- Label everything!
- Post a photo of everything in its place so it can be replicated.

Things to consider:

- The correct place for the item is obvious.
- Why are items not in the correct places?
- Aisle ways, workstations, equipment locations are identified.
- Items are put away immediately after use.
- Height and quantity limits are obvious.
- What hazards exist?

Shine:

Is it clean and is everything in its place?

- Clean all work surfaces, under & behind all equipment.
- Inspect tools- does it need maintenance or repairs? Is it in working order?
- Label and outline storage space or work area.
- Goal: Create a visual workplace.

Things to consider:

- Does the area feel organized and comfortable to work in?
- Cleaning materials and other items to keep the space clean and organized are easily accessible.
- Help others keep the area neat with labels, outlining areas where tools/equipment are kept.
- Can you accomplish your work safely? (Clear area of hazards, broken floor tiles, carpet squares are in good condition, floor is swept without slipping/tripping hazards).

Notes:

Standardize:

How do I know how to maintain the first three S's?

- Develop standard work to maintain the space: diagrams/photos, checklists, maintenance schedule.
- Assign scheduled maintenance tasks and provide the standard work.
- Develop 6-S evaluation method and revisit updating standard work as equipment, tools and other.

Things to consider:

- The standard work should be able to easily executed by others.
- Diagrams/photos, checklist & maintenance schedule is visible and communicated.
- Maintenance and cleaning schedule exists for all equipment and areas.
- Quantities needed and inventory are defined.
- What hazards exist?

Sustain:

How do I maintain the first three S's?

- Allocate time at end of each day / shift to Set in Order & Shine.
- Schedule audits to score 6-S by area & display results.
- Schedule 6-S activities for all areas.
- Schedule annual repeat of all 6-S activities and make adjustments where needed – continuous improvement.

Things to consider:

- Stick to the rules.
- Is everyone trained to 6-S the space?
- You are able to identify in the past week/month how many times 6-S has been preformed.
- Has it been difficult to find tools you needed to complete you work?
- Have hazards impacted someone's ability to perform their job?

Safety:

Every "S" has a safety component. Identify the hazard and remove it.

- Be on lookout for safety issues & resolve:
 - Employee Safety
 - Ergonomic Issues
 - Ensure safety equipment is operational
- Enter work orders for safety issues that cannot be resolved in the 6-S activity.

Notes:

Worksheet

List the names of the people who use the workspace:

-
-
-
-
-

What items should be **sorted** out of the space?

How will you and your team determine the **order to set things** in after sorting?

What things can you do to **shine** your space?

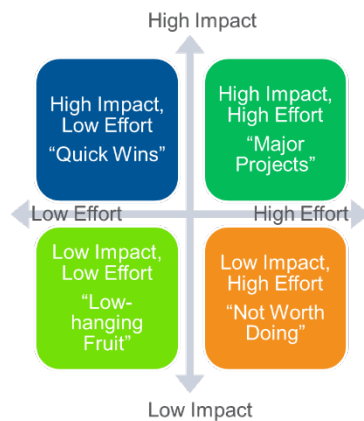
What things will you do to **standardize** the space?

How will you **sustain** your 6-S project?

Are there any safety issues that need to be addressed during this 6-S project?

Overview:

An Impact Effort Matrix is a tool that helps one decide which solution a team should pursue from a list of possible solutions. By using an Impact Effort Matrix, one can visually prioritize solutions based on ease of implementation. The matrix can help determine which solutions are the easiest to implement with limited time and resources.



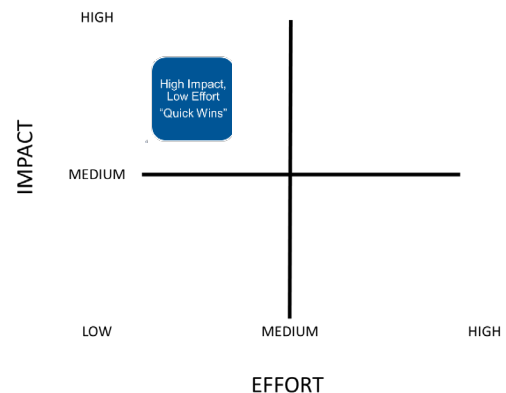
When the ideas are placed into the matrix based on the level of effort, from low to high, and the impact of implementation, from low to high, it is easy to visualize the groupings. This allows the team to focus on an idea that will give them the biggest impact with the least amount of effort. The illustration to the left categorizes the ideas in four categories: Low-hanging Fruit, Quick Wins, Major Projects, and Not Worth Doing. A team would typically pursue the ideas in the blue quadrant (the Quick Wins).

How to build an Impact Effort Matrix:

After the Gap Analysis phase of the problem-solving process, a team should have determined some of the causes that are not allowing them to get to the ideal state. Once the team finalizes which cause(s) they are going to pursue on this pass, they start Brainstorming. An Impact Effort Matrix is one tool the team can use during brainstorming and it can begin by members of the team thinking, "If we..." do this, "then we..." solve this. Team members can organize their ideas in two columns on a chart, as seen on the right.

5 Brainstorming	
If we...	Then we...

After the team has had sufficient time to brainstorm, another flip chart should be labeled with the cause for this stage of brainstorming and a simple matrix can be drawn as illustrated to the left. The team should evaluate the impact of their ideas (low to high) versus effort (low to high) and place their ideas within the appropriate area of the matrix. Ideas in the blue area are considered first.

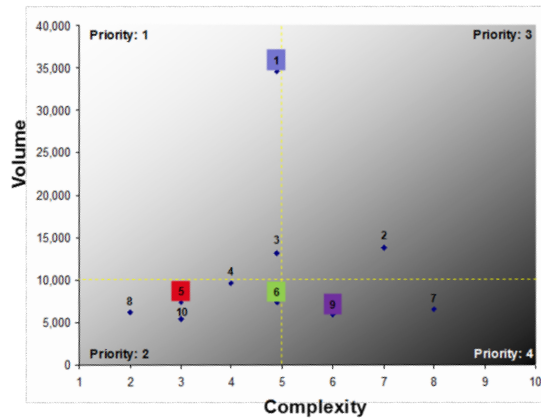


Notes:

Different axes:

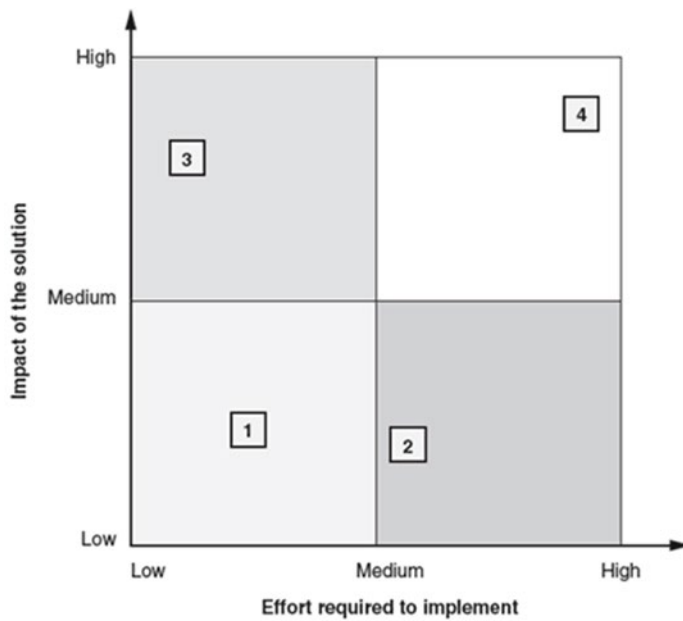
- Apply different scales to the axes
 - Low, Medium, Large
 - Scales from 1 to 10
 - \$ financial return (impact)
 - Hours required (effort)
- Apply different criteria to the axes
 - Volumes
 - Complexity
- Move the borders

2011 Call Volumes w/ Possible CEI Priority for Improvement Efforts

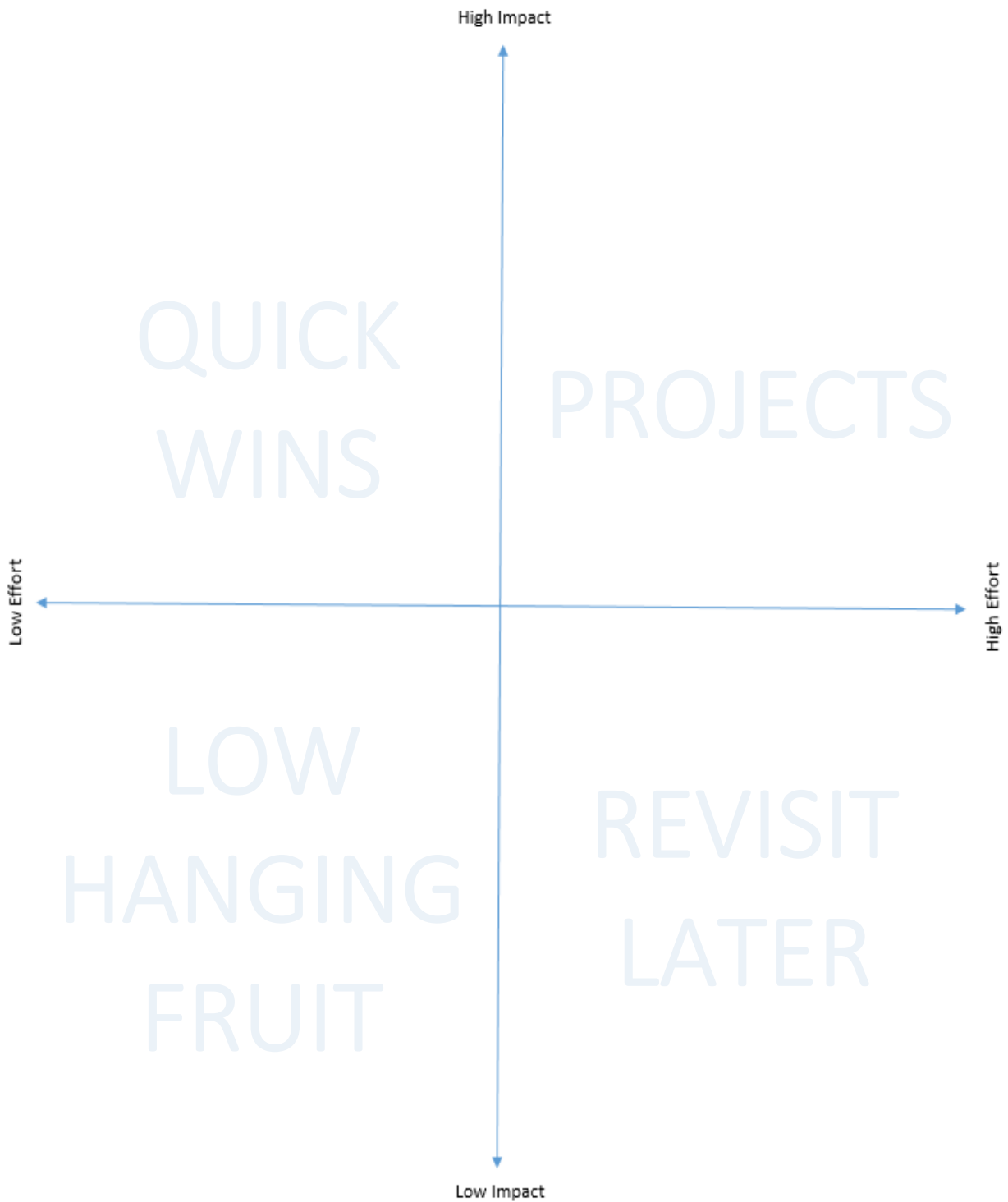


Call topics

1. Vehicle Registration
2. Property Information
3. Vehicle Titles
4. Property Tax Instructions
5. Recycle Collection Schedule
6. General Records Requests
7. Graffiti Private
8. Marriage Licenses
9. Lost & Found Pet
10. Trash – Large Item Pickup



Notes:



Overview:

Level Loading is the practice of using demand estimates to establish an average production level. A demand estimate is found by calculating **Takt time**. Takt is a German term meaning “metronome or musical beat.” In Lean terminology, takt time is the equation used to define the rate a product needs to be completed to meet customer demand. Takt time is meant to help workflow follow a consistent and fluid pattern based on demand.



$$\text{Takt Time} = \frac{\text{Time Available to Work}}{\text{Customer Demand}}$$

As shown in the formula above, time available to work is calculated by taking the total number of hours an employee works, subtracting any breaks or meetings, and dividing that time by the customer's demand. **The result is usually expressed in seconds.*

How to calculate Takt Time:

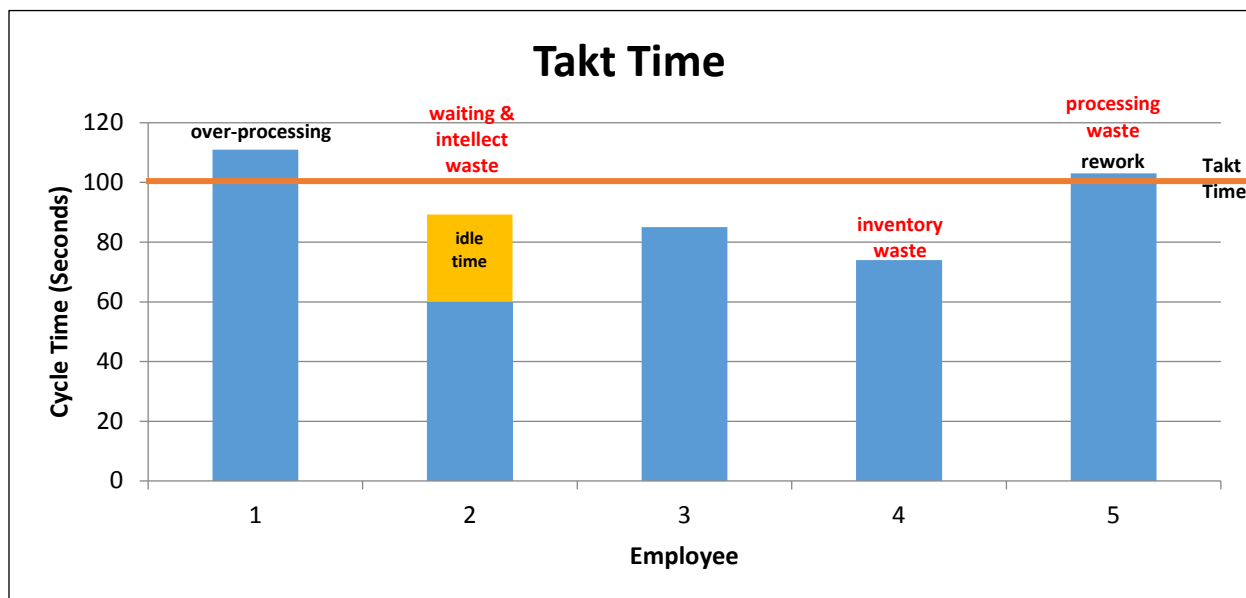
- If employees work eight hour shifts with a 30-minute lunch break and two 10-minute breaks, total work time is calculated at 430 minutes per day.
 - **Calculation:** (8 hours – 30-minute lunch – 2(10 minute breaks) = 430 available minutes
- If customer demand is 250 applications to be processed per day, takt time is available minutes divided by applications (output).
 - **Calculation:** 430 available minutes / 250 applications = 1.72 minutes per application, which is converted to seconds.
 - 1.72 minutes x 60 seconds = 103.2 seconds.
 - **Hint:** Always round to the highest whole number.
 - **In this equation the takt time would be 104 seconds.**
- As a general rule, **optimal performance is 85% of takt time**, so in this case, 89 seconds.
 - 85% is used to account for unexpected events which may occur (i.e., machine downtime, defective inputs, material shortages, rework, etc).
 - **Calculation:** 104 x 0.85 = 88.4 seconds
 - Rounding to the highest whole number, we get **89 seconds per application** as our optimal rate of production.

Notes:

The Takt Time graph displays Employee 3 at 89 seconds, which is approximately 85% of takt time and thus at optimal performance. Employees below 85% of takt time fall into the areas of waiting, inventory, and intellect waste and those employees above takt time fall into the area of processing waste. **In order to avoid waste, redistribute tasks** to 85% of takt time. This process of redistributing workload based on customer demand is level loading. Areas of waste can be viewed in the graph below.

Each employee working over or under the calculated takt time is producing waste.

- *Employee 1* may create work in process (WIP) waste, which is a waste of inventory.
- *Employees 2 & 4* may find reasons to leave the workstation or generate idle time, which is waste in waiting and intellect.
- *Employee 5* may find shortcuts or ways to skip steps to keep up. This will result in poor quality, leading to rework and other waste. Any overtime that *Employee 5* must work is a waste of processing.



Helpful hints:

- When calculating takt time, subtract scheduled breaks and meetings, but do not subtract unforeseen events such as machine downtime, material shortages or rework.
- To convert takt time from minutes into seconds, multiply the result by 60.
- Remember that optimal performance is 85% of takt time.
- Use the chart below to help calculate takt time. *Note:* the hours per year does not account for lunches, breaks, holidays or sick and vacation time.

Notes:

That Can Takt Time and Level Loading Do For You?

Takt Time and Level Loading Exercise

Scenario:

Two employees at Excise and License work 8:00AM – 5:00PM with a 1 hour lunch. They work together to issue a total of 100 licenses per day. **Employee A** processes the license application by entering the application information into the licensing software while **Employee B** takes the customers photo, takes payment, and issues the printed license. **Employee A's** role takes 3 minutes to complete while **Employee B's** role takes 6 minutes to complete.

Calculate Takt Time: What is their Takt Time to complete their daily license demand?

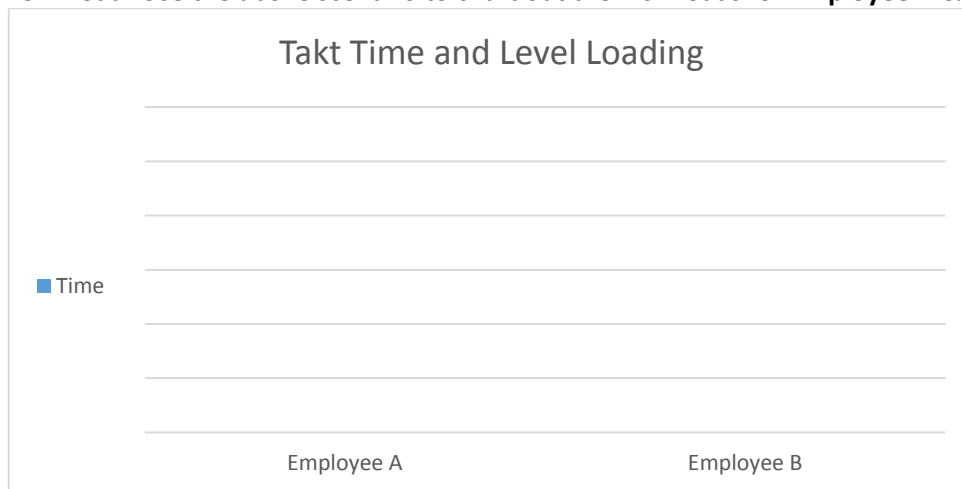
9 hours in the day – (minus) 1 hour for lunch = 8 hrs. of work time

8 hrs. of work time * (multiply) 60 min = 480 total working mins / (divide) 100 licenses = _____ min/license

_____ min/license * .85 (rule of 85%) = _____ (Takt Time)

Our Takt Time of _____ tells us how frequently we should be completing each license. *Chart your Takt Time line below.*

Chart the Work Load: Use the above scenario to chart out the workloads for **Employee A & Employee B**



Is the workload level? _____

Is there something we could do to better level the load? _____

FINAL “IGNITE” PRESENTATION

Format of the final presentations

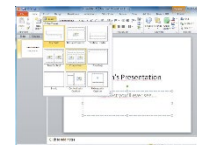
- Must be between 3-5 minutes long
- Must cover 3 Innovations
- Must use the 1st 3 Boxes of the Innovation Form (Why, Current State, Future State) for each Innovation
- You may NOT use the clicker (*You are not the first to ask*)
 - If you choose to use Power Point, you must use Auto-Advance



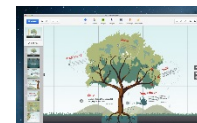
Samples of the format available at: www.igniteshow.com

We love all types of Ignite Presentations, including:

- Power Point



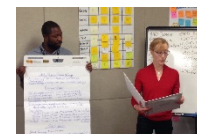
- Prezi



- Flip Chart Paper



- Storybooks



Suggested Flow for Ignite:

- ~30 seconds:
 - Info about you and 2 of your favorite inspirational quotes
 - Be creative and have fun w/ these slides!
- ~30 seconds:
 - Information about your agency. Could include: size of your agency, budget, key value streams, performance metrics for your work-group, key leaders in your organization, etc.
 - Be creative here!
- ~3 minutes: Presenting 3 innovation opportunities, 1st 3 boxes for each
 - *You will have an opportunity during training to ID possible innovation opportunities*
 - Title/Intro to the Innovation, about/title of the process it addresses, and work-group(s) that might be involved in the innovation
 - A3 Box #1 – Why Change is Needed
 - A3 Box #2 – Current State
 - A3 Box #3 – Future State
- ~30 seconds:
 - Tell us why you want to be a Black Belt, how you anticipate keeping in touch w/ one another after training, and how do you anticipate leveraging the Peak Academy after training?
 - Add other items here about yourself, about innovation, and/or about Peak Academy
 - Have fun & be creative!

Instructions for PowerPoint Auto-Advance


- If using PowerPoint:
 - Must auto-advance (e.g. every 15 seconds for 15-20 slides)
 - Instructions for Office 2007
 - Animations: Set Advance Slide feature to go “Automatically after 00:15”
 - Slideshow \ Set Up Slideshow: Set “Advance Slides” to “use timings, if present”
 - Instructions for Office 2013
 - Transitions: Set Advance Slide feature to go “Automatically after 00:15”
 - Slideshow \ Set Up Slideshow: Set “Advance Slides” to “use timings, if present”

Please Note: The timing of individual slides does not matter, as long as you are done within 3-5 minutes

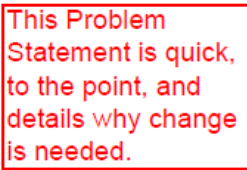
Overview:

The Innovation Form is a tool to guide you through projects as small as a Just Do It to projects as large as a Rapid Improvement Event. To help you as you begin your continuous improvement journey we have included various Innovation Forms from your peers that demonstrate what good looks like. The examples below do not reflect one continuous innovation form, rather excerpts from four different innovation forms.


Problem – Why Change is Needed




Peak Innovation Form



This Problem Statement is quick, to the point, and details why change is needed.



Peak Innovation Form



Innovation Name: Ping-Ponging PHI Marijuana Team **Start Date:** 01/01/2018

Who's Involved: PHI - Marijuana Team **End Date:** 03/06/2018

(Kara Lavaux, Richard Pruckler, Sheilah Winter, & Kelsey Hanley)

Problem – Why Change is Needed (1-2 Sentences)		
The Public Health Inspections Cannabis team consists of 3 full time employees and a direct supervisor. The team is responsible for conducting all Marijuana Infused Processing (MIP) inspections, vacant district dispensary inspections, and marijuana business license sign-off's each month across all of Denver. It is hard for investigators to look at a monthly list of addresses dispersed across all of Denver and be effective with planning and travel time. We want to eliminate "ping-ponging" around Denver and be more efficient with eliminate potential travel time.		
Current State (CS) Costs	Future State (FS) Costs	

Current & Future State Metrics

	Current State (CS) Costs	Future State (FS) Costs
Money 💰	Level 3 Investigator: ~\$28/hour Level 2 Investigator: \$25/hour Travel Cost: \$0.535/mile	Level 3 Investigator: ~\$28/hour Level 2 Investigator: \$25/hour Travel Cost: \$0.535/mile
Errors ❌	5 "ping pongs" per week/per investigator (1 investigator = 250 'ping pongs' per year) (3 investigators = 750 'ping pongs' per year)	Same – but drastically shrink the "ping pong" distance and time
Amount #	Range of "ping pong" could be 2-15 miles (average of 5 miles if working in specific area) (1 investigator = 25 miles/week) (3 investigators = 75 miles/week) Total Investigator Miles = 3,750 miles/year	Range of "ping pong" cut down to 1-2 miles (average of 1 mile if working in a specific area) (1 investigator = 5 miles/week) (3 investigators = 15 miles/week) Total Investigator Miles = 750 miles/year
Time ⌚	5 miles per "ping pong" = 15 min (1 investigator = 1.25 hours/week) (3 investigators = 3.75 hours/week) Total Investigator Ping Pong Time = 187.5 hours/year	1 mile per "ping pong" = 5 min (1 investigator = 25 min/week) (3 investigators = 1.25 hours/week) Total Investigator Ping Pong Time = 62.5 hours/year (+1 investigator building monthly map = 12 hours/year) Total time = 62.5 hours + 12 hours = 74.5 hours/year
Yearly Cost (Annualized)	3,750 miles * \$0.535/mile = \$2,006.25 mileage cost ~\$26.5/hour * 187.5/hours year = \$4,968.75 employee pay cost	750 miles * \$0.535/mile = \$401.25 mileage cost ~\$26.5/hour * 74.5/hours year = \$1,974.25 employee pay cost
	-\$6,975.00 Total Cost	-\$2,375.5 Total Cost
Yearly Savings (CS Cost – FS Cost)	\$4,599.50 Total Savings	
Yearly Savings to Customer (Value of Customers Time)	Time managed <u>more effectively</u> , more time to work on other projects to make Denver better.	

Gap Analysis

[value of customers time] are consistent with what other coordinators are utilizing.

Gap Analysis – What holds us back from our Future State?

No one knows where the most up to date information is in the Share Drive. Therefore, email templates are manually edited each time to fit what is needed for a specific agency.

8 Wastes

Wastes Observed (Check All That Apply)			
<input checked="" type="checkbox"/>	Defects (potential errors on map)	<input checked="" type="checkbox"/>	Transportation
<input type="checkbox"/>	Overproduction	<input type="checkbox"/>	Inventory
<input type="checkbox"/>	Waiting	<input checked="" type="checkbox"/>	Motion
<input type="checkbox"/>	Non-Utilized Talent/Things	<input type="checkbox"/>	Excessive Processing

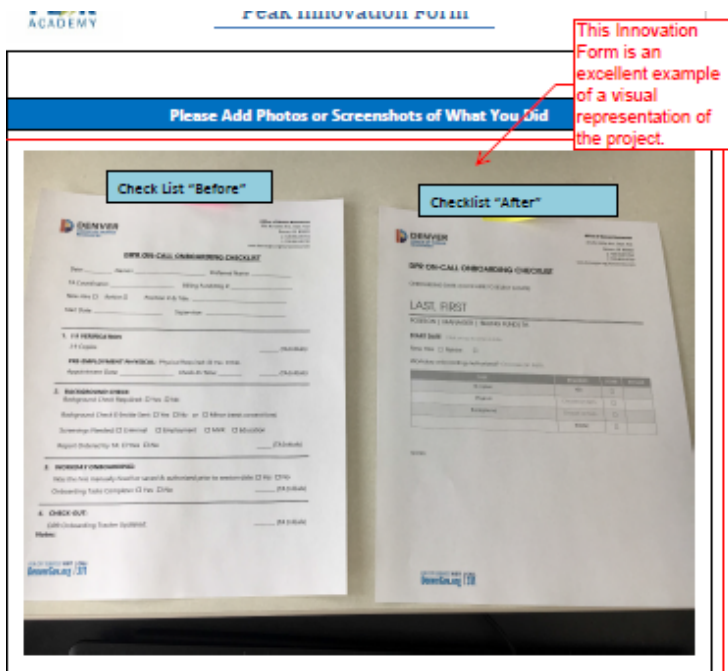
Brainstorming

Brainstorming		
If we...	Then we...	Experiment Outcome
Eliminate some unused fields on the current form	Will not waste time completing fields that are not used	positive
Make the fields easy to edit	Will not have to re-edit the format every time	positive
Make multiple choice selections	Will have less user error and faster selection	positive

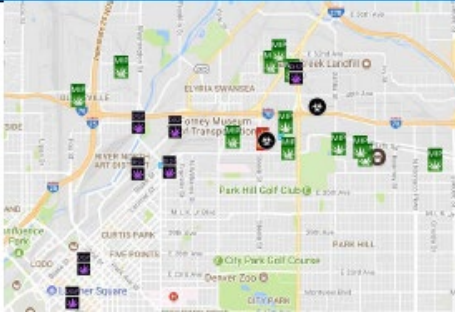
Action Plan

Action (What Did You Do?) 1-2 Sentences		
Action Item	Assigned To	Date Completed
Created a new form with proper format	Stephanie	9/26
Test form with candidates the week of 9/26-10/23	Stephanie to create- Tara to execute and provide feedback	10/23
Form Edits- change sizes/capitalization of fields for easier view.	Stephanie	10/24

Please add Photos or Screenshots of What You Did



Please Add Photos or Screenshots of What You Did



Results

	Current State	Future State	30 day	60 day	90 day
Money	\$2,693.60 per coordinator/year	\$1,346.80 per coordinator/year = \$112.23 per coordinator per month	\$1,346.80 per coordinator/year, \$112.23 per coordinator saved	\$1,346.80 per coordinator/year, \$224.27 per coordinator saved	\$1,346.80 per coordinator/year, \$336.70 per coordinator saved
Errors	Many due to manually editing every piece of information in template each time to be agency specific	Some due to edits to make email liaison, manager or candidate specific	Some due to edits to make email liaison, manager or candidate specific	Some due to edits to make email liaison, manager or candidate specific	Some due to edits to make email liaison, manager or candidate specific
Amounts	14 email templates/day	14 email templates/day	14 email templates/day	14 email templates/day	14 email templates/day
Time	7,280 minutes/coordinator/year	3,640 minutes/coordinator/year	3,640 minutes/coordinator/year	3,640 minutes/coordinator/year	3,640 minutes/coordinator/year
Qualitative	Frustrated and Confused	Increased productivity and efficiency	Increased productivity and efficiency	Increased productivity and efficiency	Increased productivity and efficiency

Lessons Learned

What Went Well (+)	What Didn't Go Well/Needs Changed (Δ)
Email templates in share drive are standardized and up to date, easy to find and can be used on a daily basis with confidence	You do need to save these email templates as signatures or quick parts in your Outlook. If you send directly from the share drive, this will update the information to your specific email

Innovation Name:
Who's Involved:

Start Date:
End Date:

Problem – Why Change is Needed (1-2 Sentences)			
	Current State (CS) Costs	Future State (FS) Costs	
Qualitative (Feelings) 😊 😐 😞			
Money 💰			
Errors ❌			
Amount #			
Time 🕒			
Yearly Cost (Annualized)			
Yearly Savings (CS Cost – FS Cost)			
Yearly Savings to Customer (Value of Customers Time)			
Gap Analysis – What holds us back from our Future State?			
Wastes Observed (Check All That Apply)			
<input type="checkbox"/>	Defects	<input type="checkbox"/>	Transportation
<input type="checkbox"/>	Overproduction	<input type="checkbox"/>	Inventory
<input type="checkbox"/>	Waiting	<input type="checkbox"/>	Motion
<input type="checkbox"/>	Non-Utilized Talent/Things	<input type="checkbox"/>	Excessive Processing
Brainstorming			
If we...	Then we...	Experiment Outcome	

Action (What Did You Do?) 1-2 Sentences

Action Item	Assigned To	Date Completed

Please Add Photos or Screenshots of What You Did

Results (How is Everyone Better Off?) 1-2 Sentences / Updated Metrics

	Current State	Future State	30 day	60 day	90 day
Money					
Errors					
Amounts					
Time					
Qualitative					

Lessons Learned

What Went Well (+)	What Didn't Go Well/Needs Changed (Δ)

Additional Innovation Notes Here

Innovation Name:
Who's Involved:

Start Date:
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Problem – Why Change is Needed (1-2 Sentences)				
	Current State (CS) Costs		Future State (FS) Costs	
Qualitative (Feelings) 😊 😐 😞				
Money 💰				
Errors ❌				
Amount #				
Time 🕒				
Yearly Cost (Annualized)				
<i>Yearly Savings (CS Cost – FS Cost)</i>				
<i>Yearly Savings to Customer (Value of Customers Time)</i>				
Gap Analysis – What holds us back from our Future State?				
Wastes Observed (Check All That Apply)				
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<input type="checkbox"/>	Overproduction	<input type="checkbox"/>	Inventory	
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<input type="checkbox"/>	Non-Utilized Talent/Things	<input type="checkbox"/>	Excessive Processing	
Brainstorming				
If we...	Then we...		Experiment Outcome	
Action (What Did You Do?) 1-2 Sentences				

Action Item	Assigned To	Date Completed

Please Add Photos or Screenshots of What You Did

Results (How is Everyone Better Off?) 1-2 Sentences / Updated Metrics

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Money					
Errors					
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Problem – Why Change is Needed (1-2 Sentences)

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Qualitative (Feelings) 😊 😌 😞		
Money 💰		
Errors ❌		
Amount #		
Time 🕒		
Yearly Cost (Annualized)		

<i>Yearly Savings (CS Cost – FS Cost)</i>	
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<i>Yearly Savings to Customer (Value of Customers Time)</i>	
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Gap Analysis – What holds us back from our Future State?

Wastes Observed (Check All That Apply)

<input type="checkbox"/>	Defects	<input type="checkbox"/>	Transportation
<input type="checkbox"/>	Overproduction	<input type="checkbox"/>	Inventory
<input type="checkbox"/>	Waiting	<input type="checkbox"/>	Motion
<input type="checkbox"/>	Non-Utilized Talent/Things	<input type="checkbox"/>	Excessive Processing

Brainstorming

If we...	Then we...	Experiment Outcome

Action (What Did You Do?) 1-2 Sentences

Action Item	Assigned To	Date Completed

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Results (How is Everyone Better Off?) 1-2 Sentences / Updated Metrics

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Money					
Errors					
Amounts					
Time					
Qualitative					

Lessons Learned

What Went Well (+)	What Didn't Go Well/Needs Changed (Δ)

Additional Innovation Notes Here

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