

## PEX Primer: Process Mapping

### Overview

A Process Map is a diagram that visually displays a series of events, or steps that occur within a given process. Maps are great visual aids that enable members of the team to understand and achieve standard work and continuous improvement. They can be simple, high-level maps or more detailed, low-level maps. Pick the level that allows for process inefficiencies to be visible. You will want to create a current state (“as is”) map first then use the Eight Wastes tool to help identify inefficiencies/waste in the process.

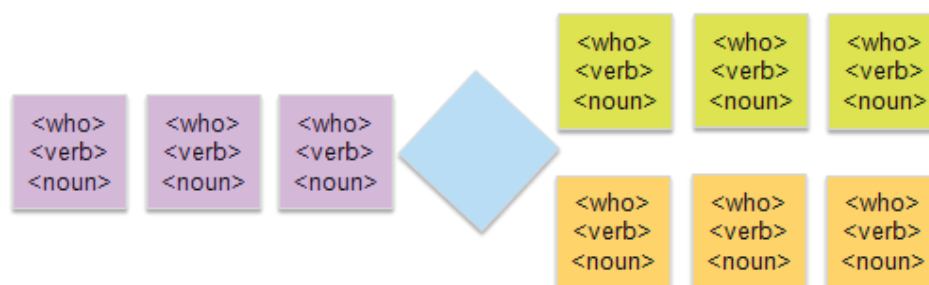
Try to include the following in every type of Process Map you create:

1. Put the title of the process, current or future state, and the date at the top of the process map
2. Define the start and end points
3. Identify who the customer of the process is
4. Use square sticky-notes for steps and turn them into diamonds for decisions
5. Label the time it takes for each step as well as for the process as a whole
6. Identify value added, non-value added, and business-necessary non-value added steps
  - a. Value-added = transforms the product/service in a way that adds value to the customer
  - b. Non-value-added = process step that does not transform or add value
  - c. Business necessary = process step that is required by law, policy, or customer, and does not add value

### Easy “How To” Using Sticky Notes:

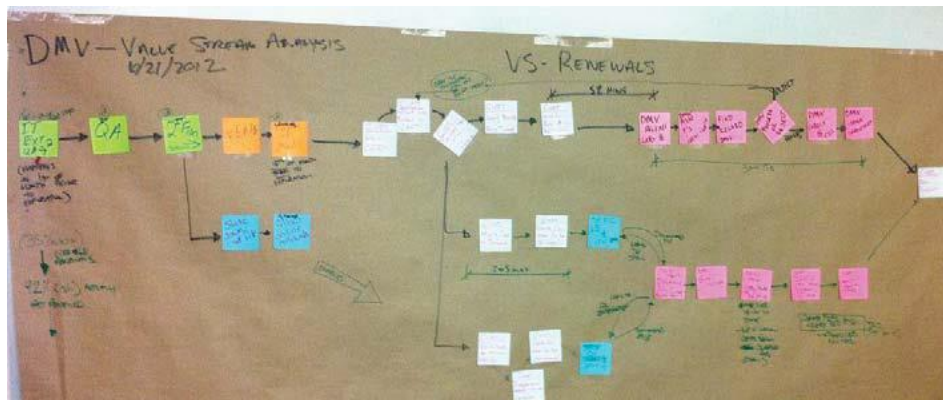
Create a map by using post-it notes on a large roll of paper. Use different color post-it notes for action steps vs. decisions. It may be helpful to use a post-it note as a square for action steps and a diamond for decisions points. Each post-it note should represent a different step in the process. Note the diagram below:

**Sample Process Map – Current State – 11/10/14**



## PEX Primer: Process Mapping

A completed process map may look something like the following example.



When your team has documented your current process, review the map and look for the following:

- Duplication of steps
- One of the Eight Wastes
- Value Added vs. Non-Value Added steps. Remember: the *CUSTOMER* defines value, not you
- Where are the opportunities to improve the process?
  - Mark these opportunities to help create a future state

### General rules of thumb:

- Left to right is when steps take place
- Mark milestones and/or time to deliver value to your customer
- When possible, document volumes of “widgets,” or the number of customers you serve that go through the process
- Boxes = Steps in a process (label “who” and use verbs)
- Diamonds = Decisions (Yes/No, If/Then...)
- Use pink post-it notes to represent waste/issues; other colors can be used for different work groups or individuals
- Processes can occur at the same time, with one process shown above or below the other (known as ‘swim lanes’)

### Remember

You are not going to break anything!  
Strive to ensure it is accurate and reflects the work that is actually done

## PEX Primer: Behavioral Insights “NUDGE” Technique

### Overview

Behavioral Insights is the idea that how choices are presented to individuals greatly impacts the types of decisions that they will make. The various strategies used to frame these choices are known as Nudges. The goal of many nudges is to make life simpler, safer, or easier for people to navigate and intended to ensure that people do not struggle when they seek to interact with government or to achieve their goals. For this primer, the insights are grouped using the **EAST** Framework: 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 they will take that course of action.

*Example: Placing a healthy food item at the top of a menu increases its popularity, and sending clients directly to a form rather than a webpage that contains the form increases response rates.*

#### Strategies to Make Choices More EASY

- 1) Defaults – Changing the default setting to encourage more positive behavior
- 2) Friction Costs – Reduce the “hassle factor” of a system to encourage uptake of services
- 3) Simplification – Make a service easier to use or a message easier to understand



#### 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 (e.g., 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: Putting a handwritten note on the outside of an envelope increases interest in what’s on the inside, and noting a limited time frame to enroll in a government program increases uptake of services.*

#### Strategies to Make Choices More ATTRACTIVE

- 1) Loss Aversion—Focus on the potential loss associated with an action rather than a gain
- 2) Scarcity—Highlight scarcity of goods to make them more attractive
- 3) Salience—Make the most important information or action stand out so it attracts attention

## PEX Primer: Behavioral Insights “NUDGE” Technique

### 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: Telling people who have not paid their taxes that most people have paid on time increased payment rates, or people were more likely to join the organ donor program if they were asked, ‘if you needed an organ transplant would you have one? If so, please help others.’*

#### Strategies to Make Choices More SOCIAL

- 1) Descriptive Norm—When people are doing the right thing, let everyone know
- 2) Reciprocity—Offer help or a gift to someone to encourage them to give something back
- 3) Relative Ranking—Give people feedback on how their behavior compares to their peers, friends, or colleagues

### 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.

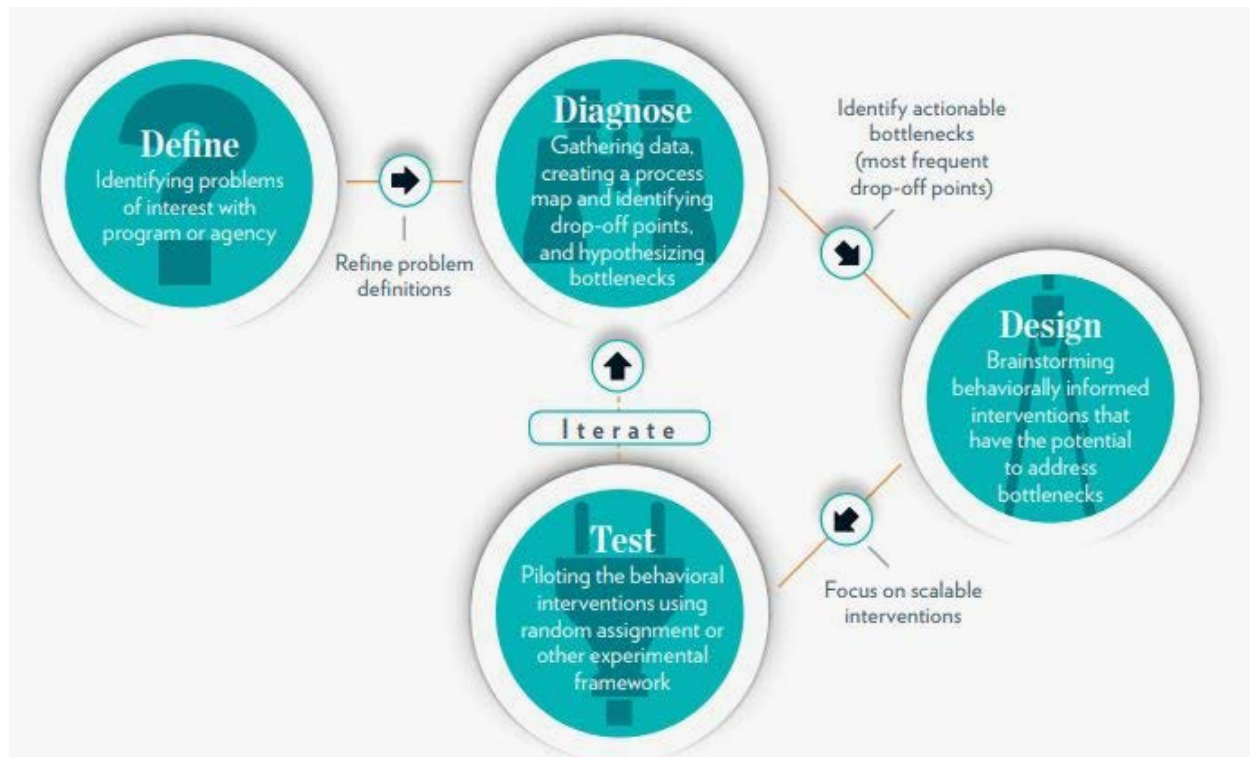
*Example: By sending a message that read “I’d rather be waiting at the DMV during the holidays”, said NO ONE EVER” to city residents who needed to renew their license near the holiday, online renewals are more likely to increase*

#### Strategies to Make Choices More TIMELY

- 1) Prompts—Encourage individuals to take action through a well-timed message or intervention
- 2) Implementation Intention—Get someone to spell out when, where, and how they will do something or accomplish a goal
- 3) Deadlines—Give people an expiration date or deadline to receive/use a service or complete a task

## PEX Primer: Behavioral Insights “NUDGE” Technique

### Developing a Nudge Project



1. **Define** – identifying problems of interest with program or department. Make sure there is clarity in defining the problems and the population
2. **Diagnose** – Gathering data, creating a process map of and identifying potential drop-off points for customers, and hypothesizing bottlenecks
3. **Design** – Brainstorming behaviorally informed interventions that have the potential to address bottlenecks
4. **Test** – Piloting the behavioral interventions using random assignment or other experimental framework

## *PEX Primer: Behavioral Insights “NUDGE” Technique*

### Testing Multiple Insights – Random Control Trial

<ul style="list-style-type: none"> <li>• What is the problem you are working on or what behavior are you trying to change?</li> </ul>	
<ul style="list-style-type: none"> <li>• Whose behavior (specifically) are you trying to ‘nudge’?</li> </ul>	
<ul style="list-style-type: none"> <li>• What is the current baseline of behavior and what is the goal you want to achieve at the end of the project?</li> </ul>	
<ul style="list-style-type: none"> <li>• What data will you use to contact and track changes in this client group?</li> <li>• Who owns the data (i.e., is it internal or external)?</li> <li>• Are there any barriers to getting the needed data?</li> </ul>	
<ul style="list-style-type: none"> <li>• Is there a budget for this project, such as for printing, postage and/or distribution, or would this study be conducted electronically?</li> </ul>	
<ul style="list-style-type: none"> <li>• What is the preferred timeline to conduct and complete the study?</li> </ul>	
<ul style="list-style-type: none"> <li>• What potential insight(s) might you want to test?</li> </ul>	

performanceexcellence@mesaaz.gov

## PEX Primer: Fishbone Diagram

### Overview:

A fishbone diagram is a type of root cause analysis. The tool can be used to identify causes to a problem through categorization, and determine whether the causes are within or outside of the control of the team / process owner. By using a fishbone diagram one is able to identify and organize causes to a problem so that the causes can be prioritized for further investigation. The diagram is intended to show:

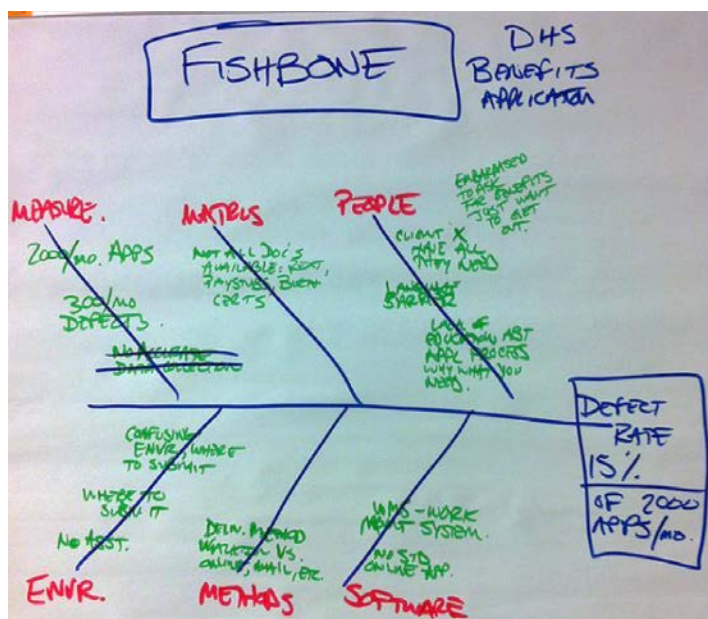
- The problem (or effect)
- The categories of the causes of the problem
- The specific causes of the problem

### What does it do?

- Enables a team to focus on the content of the problem, not on the history of the problem or differing personal interests of team members
- Creates a snapshot of the collective knowledge and consensus of a team around a problem. This builds support for the resulting solutions.
- Focuses the team on causes, not symptoms.

### How to create a Fishbone Diagram:

It is simple. Once a problem (or effect) is identified, create the body of a fish on a large piece of paper, butcher block or flip chart. The problem is the “head” of the fish (the “Defect Rate” in the diagram below). Label the categories of causes (Environment, Methods, Measurements, Materials, Machine, and People), and then brainstorm the specific causes of the problem as a team. You can be creative and use categories other than those mentioned here (e.g., software, policies).



- Always identify the causes in a team environment
- Team members should include process owners, process supervisors, practitioners, and subject matter experts
- Be flexible with the categories of causes

## PEX Primer: Fishbone Diagram

### Typical Transactional Cause Categories:

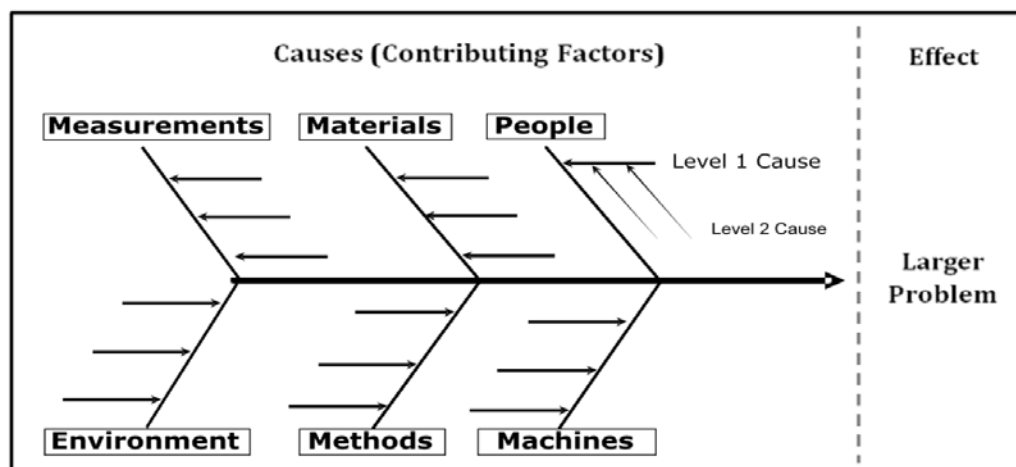
- Policies – high level decision making
- Procedures – step by step instructions
- Plant – physical space where the problem occurs
- People – employees or customers

### 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

### Helpful Hints:

- Make sure everyone agrees on the problem statement. Include as much information as possible on the what, where, when, and how much of the problem. Use data to specify the problem.
- 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.
- It may be effective for the team to brainstorm specific problems first (onto sticky notes), and then determine the categories
- Causes within the control of the team / process owner can then be prioritized for future potential investigation / waste elimination.





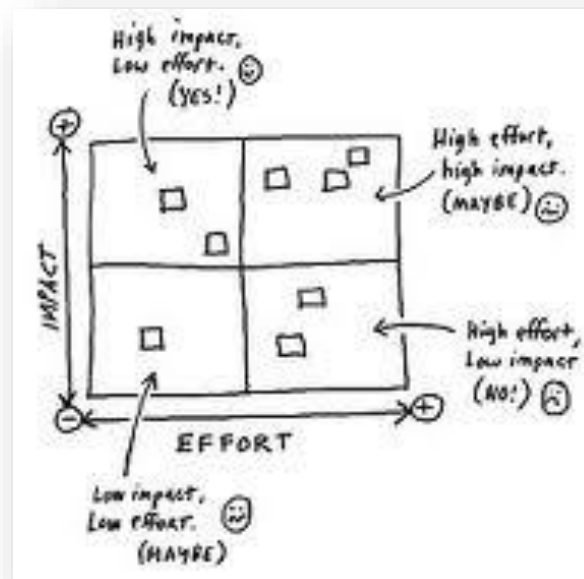
## PEX Primer: Impact Effort Matrix

### Overview

The Impact Effort Matrix is a four-square grid that helps you assess solutions for their relative impact given the effort required. It plots impact along a vertical axis and effort all the horizontal axis which provides a quick way to filter out solutions that might not be worth the effort.

The matrix is

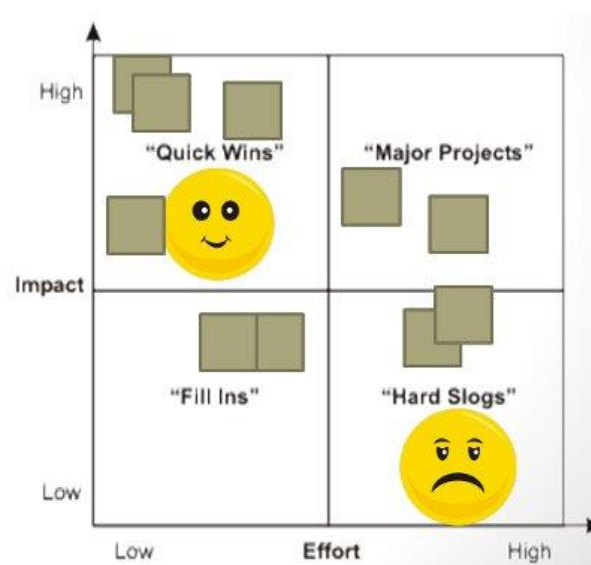
- A tool to prioritize a list of solutions or ideas
- A way to determine what to do
- A way to determine what NOT to do
  - Avoid activities with little value
  - Avoid the noise
- A tool to help decide which solutions to implement
  - Which solutions are the easiest to implement with the greatest effect
- A tool to facilitate group collaboration
- A way to visualize how to get the biggest impact with the least effort



## PEX Primer: Impact Effort Matrix

The basic steps of the Impact Effort Matrix are:

1. Brainstorm the ideas/solutions
  2. Rate the impact of each idea on the problem to be solved (use sticky notes/dots on matrix)
  3. Rate the effort needed to implement the idea. Consider the following:
    - a. Ease/feasibility of implementation
    - b. Cost of implementation
    - c. Resources required
    - d. Money and budget needed and availability
    - e. Technology availability and requirements
    - f. Skills and competence availability and requirements
  4. Position the idea on the matrix
  5. Rate the other ideas for implementation and choose which to pursue
- The **upper left quadrant** indicate solutions that take little effort but have high impact. These “quick wins” offer good opportunity to make needed changes with current resources.
  - The **lower left quadrant** indicate solutions that take little to no effort but produce little toward solving the problem. Solutions in this quadrant might be considered but only if no other higher impact solutions are available.
  - The **lower right quadrant** indicate solutions that require great effort with little impact. Solutions in this quadrant give little in return for the effort needed and should be avoided.
  - The **upper right quadrant** indicate solutions that require great effort but have great impact. These tend to be major projects and should be considered when resources are available and the impact is considerably higher than other solutions available.



# 8 WASTES or... OPPORTUNITIES FOR IMPROVEMENT

## Defects

The effort involved in inspecting for and fixing defects, errors, and mistakes.

### Examples

- Data errors, typos & lost records
- Delivering information or materials to the wrong location
- Missing or incomplete information on forms



### Typical Causes

- Missing and incorrect information
- Unclear or complex process
- Unclear roles and responsibilities
- Confusing instructions or req.
- Voice of the customer absent
- Poor or inappropriate equipment, materials or supplies

### Solutions

- Apply problem solving tools
- Verify customer requirements
- Create standard work
- Error proof
- Apply "Plain Language"
- Automate forms - put in hard stops that don't allow partial information
- Require all information up front
- Track & share accuracy measures

## Overproduction

Producing more products or services than the customer needs or downstream process can use right away.

### Examples

- More staff working or attending meetings than is needed
- Doing work not required
- Sending unnecessary emails
- Batching and bottlenecks



### Typical Causes

- Unclear customer requirements
- Uneven work flow
- Poor workflow process
- Poor worker distribution
- Different staff skills, productivity, or work difficulty

### Solutions

- Verify customer requirements and align process with req.
- Use one step process flow
- Use "Effective Meetings" tool
- Apply "Plain Language"
- Revise process schedule to even out workload
- Assign more staff or shift roles and responsibilities at peak times

## Waiting

Idle time created when material, information, people, or equipment is not ready.

### Examples

- Approval queues
- Waiting for decisions or services
- Waiting for customer information, supplies or copies



### Typical Causes

- Missing and incorrect information
- Unclear or confusing process
- Unclear roles and responsibilities
- "System" downtime
- Signature requirements
- Not leveraging technology
- Lack of workers/service providers

### Solutions

- Require all information up front
- Combine tasks or functions to eliminate handoffs and waits
- Use concurrent process
- Co-locate work to minimize wait due to transportation/motion
- Eliminate non-value added steps
- Maintain equipment and machinery

## Non-utilized Staff Talent

Not adequately leveraging peoples' skills, creativity and talents.

### Examples

- Staff hired to do "x", but spending time on "y"
- Lack of innovation
- Not involving staff in solving problems and ensuring CI



### Typical Causes

- Lack of awareness of CI principles, approaches, and tools
- Unclear or confusing process
- Not delegating work
- Unclear or inappropriate job descriptions or duties

### Solutions

- Set clear performance expectations
- Coach and train employees
- Provide tools and resources
- Ask staff "What can I do to support your work and remove barriers to improvement?"
- Engage staff in a CI project
- See where the work is done, ask questions, & learn (go to Gemba)

# 8 WASTES or... OPPORTUNITIES FOR IMPROVEMENT

## Transportation

Moving products, equipment, materials, information, or people from one place to another.

### Examples

- Routing documents
- Paperwork hand-offs
- Carrying or retrieving files
- Transporting patients
- Site inspections



### Typical Causes

- Transportation not viewed as a waste
- Distance and physical structure
- Staff turnover/relocation
- New or replaced equipment
- Poor planning and communication

### Solutions

- Leverage technology (allow staff to telecommute)
- Only order what you will use
- Collect data to understand transportation problems (spaghetti map)
- Analyze data to determine root causes before defining solutions

## Inventory/Storage

Unnecessary storage of information and materials or more information and materials than is needed.

### Examples

- Storing the same document in many places
- Backlog (work in process)
- Obsolete databases/files/folders
- Unread or undeleted emails
- Supplies you do not use



### Typical Causes

- Batching work
- Not using one-process flow
- Technology systems that take time to access
- Not leveraging technology
- Over-ordering

### Solutions

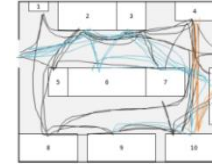
- Use one-step process flow
- Revise process steps and schedule to even out workload
- Assign more staff or shift roles and responsibilities at peak times
- Don't over order
- Investigate variations in the time it takes employees to perform the same task (takt time)

## Motion

Unnecessary movement of workers and tools that takes time, uses energy, and may create health and safety issues.

### Examples

- Trips to copier
- Looking through cabinets for needed supplies
- Walking to find people
- Extra computer clicks



### Typical Causes

- Manual process – not leveraging technology
- Non-ergonomic work area
- Poor visual management
- Linear (consecutive) process
- Distance and physical structure
- Information silos

### Solutions

- Leverage technology
- Use concurrent process
- Co-locate work
- Clarify process requirements for those upstream and downstream
- Move people closer together to enhance communication and collaboration

## Extra Processing

Process steps that do not add value to the product or service, including doing work beyond a customer's specifications.

### Examples

- Signatures
- Preparing an elaborate report when a data table will do
- Forms with unused data fields
- Too many spreadsheets
- Re-entering or checking data



### Typical Causes

- Past practices; culture does not question the status quo
- Standard work is not aligned with the voice of the customer
- Lack of trust/ control issues
- Poor communication
- Not leveraging technology

### Solutions

- Identify customer requirements and align work with req.
- Delete or automate signature requirements
- Know which process steps add value and eliminate non-value added steps (Quick Hits)
- Apply "Plain Language"
- Automate where appropriate

## PEX Primer: Setting Sensible Targets

### Introduction

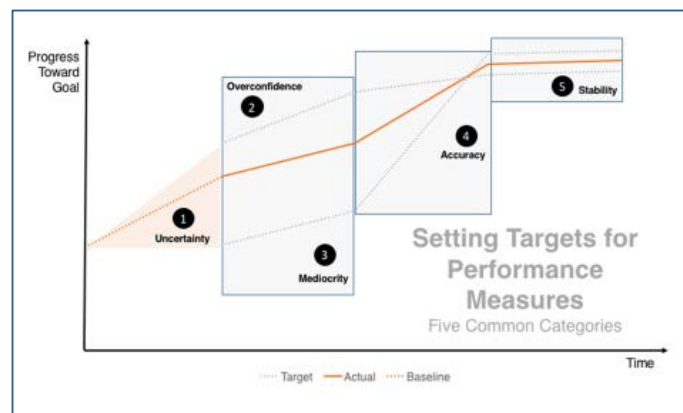
Performance measures provide organizations quantifiable information about something they care about achieving or maintaining. Targets help them know where to aim and are essential to performance improvement.

Setting a sensible target is not about guessing what you can achieve, or just copying the same target month to month or year to year. It involves knowing where you are now, what you are trying to achieve, and determining challenging, but realistic, amounts of improvement needed to get there.

*The process of setting targets should be a deliberate and mindful effort to honestly determine the desired level of performance improvement.*

### Common Categories of Targets

Generally, target setting falls into five common categories: uncertainty, overconfidence, mediocrity, accuracy, and stability.



1. **Uncertainty:** No baseline data exists to set appropriate targets without guessing. As soon as possible, create a data collection schedule to capture baseline data before setting a final target.
2. **Overconfidence:** Targets are unrealistic and unattainable based on *baseline data and other available evidence*. There is no evidence the program/department has ever performed at the target level, and no evidence it can reach it. Avoid setting targets that are too aggressive.
3. **Mediocrity:** Targets are far below proven capacity. This occurs when programs want to appear at or above the target at all times. This “pat-ourselves-on-the-back” practice adds very little value and should be avoided.
4. **Accuracy:** An accurate target is one that accounts for as many variables as possible that impact the performance measure. The sweet spot of target setting.
5. **Stability:** Stability occurs when performance has flat-lined at an acceptable level., i.e., when long-standing measures have leveled off and show microscopic levels of improvement, if any. *Congratulations for such a high level of achievement! Time to focus on a different measure.*

## PEX Primer: Setting Sensible Targets

---

### Methods to Determine a Sensible Target

The best way to set stretch, but achievable, targets is to consider a range of evidence available, which may include historical data, external benchmarks (for context), and local knowledge.

#### **Use Historical Data**

It can be helpful to use data that your unit has already gathered to establish a baseline, or starting point, for your target. A minimum of three data points is good; seven is better. Look at relevant data over a period of time and see whether there has been an abrupt and unanticipated change in performance. If so investigate the reasons for the change before setting targets.

#### **Use Local Knowledge**

Include analysis of current and future resources; knowledge of customer needs and expectations; understanding of current economic and demographic conditions; and overall anticipated impact of current strategic initiatives.

#### **Use External Sources (Benchmarking)**

Benchmarking is a tool that can provide information about what is possible within the context of commonly measured services between and among similar cities and programs. When searching for similar cities consider: (1) population, (2) geography, (3) infrastructure, (4) mobility, and (5) politics and governance.

Resources are available such as the [Valley Benchmark Report](#), [Gilbert \(AZ\) Benchmark Report](#), [National Neighborhood Indicators Project](#), and [North Carolina Benchmarking Project](#).

---

*Sensible targets are those that are both achievable and stretch; motivate people to pursue them; based on the best available evidence (data); and evoke a curiosity and an energy of what could-be.*

---

### Important Notes

- If you have a target for a performance measure that has not changed for more than a year or two, that suggests that you are not anticipating any significant change and/or not making any attempt at improvement. Be sure to review your targets, measures, benchmarks, and strategies on a regular basis. You can continue to track this measure, but you also should move on to measuring those areas that do need improvement.
- We set targets that stretch us to find as much influence as we can to get performance to improve. Even though we might want zero accidents, and setting a target of zero is what our hearts want to do and we ethically feel compelled to do, it's not going to help people feel empowered if zero is impossible to achieve.
- Targets are best set by those closest to the work, rather than from the outside, so include staff in the target setting process.
- Targets should not be rolling averages, or, for monthly measures, cumulative over a full year (or specific reporting period). Rather they should be set relative to expectations of what is to be achieved at each reporting period.

## PEX Primer: 5 Why's

### Overview:

The 5 Why's refers to the practice of asking, five times, why the situation has occurred in order to get to the root cause(s) of the problem. Failure to determine the 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. Actual number of why's is not important so long as you get to the 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? - I didn't stop because I was late for work.
4. **Why** were you late for work? - Because I overslept.
5. **Why** did you oversleep? - Because my alarm clock stop working.

**Solution:** Get a new working alarm clock.

### 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 monument
4. **Why** so many spiders? - They eat gnats and there are lots of gnats at monument
5. **Why** so many gnats? - They are attracted to the light at dusk.

**Solution:** Turn on the lights at a later time.

### Real life:

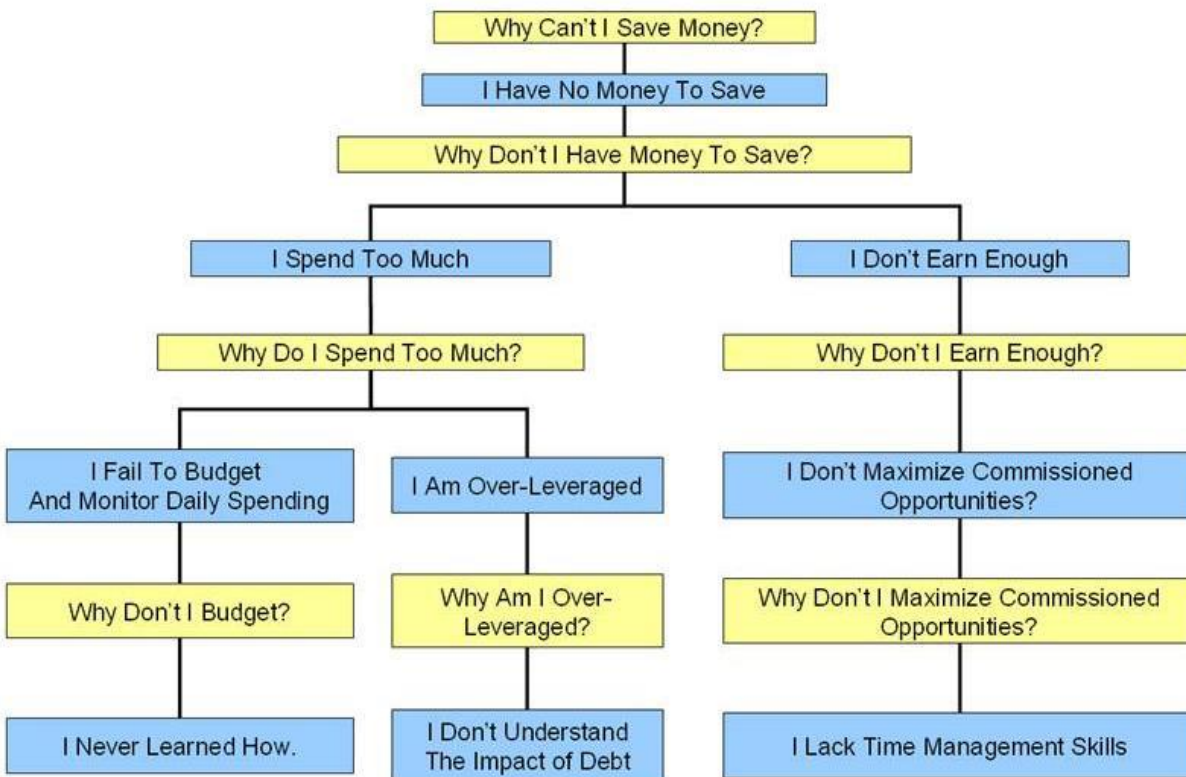
**Problem Statement:** It takes hours to fill out a TANF (Temporary Assistance for Needy Families) application.

- 1) **Why** does it take so long? - Because the 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.

**Solution:** Provide on-site babysitting service to TANF applicants. This simple solution resulted in a reduction in the application time.

## PEX Primer: 5 Why's

A 5 Why's Tree can be used to explore multiple Why's. 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.





## PEX Primer: RACI Matrix

### Overview:

The RACI Matrix is used for identifying roles and responsibilities and avoiding confusion over those roles and responsibilities during a project or on-going activities. The primary objective of the RACI chart tool is to eliminate role confusion and to be able to deliver the product or service to the customer efficiently and effectively.

RACI denotes Responsible, Accountable, Consulted, and Informed, which are four parameters of a matrix (see below) that when used appropriately can improve communication, eliminate work redundancies, and keep processes flowing smoothly.

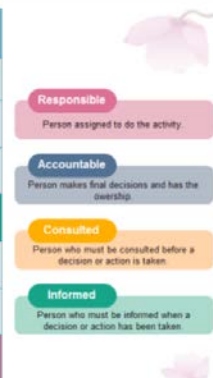
- **Responsible:** The person who is responsible for the performing or execution of a task or the work.
- **Accountable:** The person who is accountable for the correct and thorough completion of the task or work, and the one who signs off on the work.
- **Consulted:** The people who are the subject matter experts and give feedback, provide valuable information, and contribute as and when required.
- **Informed:** The people who are kept informed, or who need to be informed, about progress and know about actions or decisions taken.

### When/Why to use the RACI Matrix:

- To clarify roles and responsibilities on complex processes and procedures that require many people's involvement
- Use at new employee orientation so roles and responsibilities are explained and new employees understand their roles and responsibilities and how they fit into the project/process
- To resolve conflicts and disagreements about who owns what part of a process
- To help reduce the amount of email "noise" (getting emails for tasks you don't need to be informed of) which helps the whole team stay productive

### Sample RACI Matrix:

RACI Matrix						
Role	Role 1	Role 2	Role 3	Role 4	Role 5	Role 6
Task						
Task 1	R		C			
Task 2	R		A		C	
Task 3	R	R	I	A		I
Task 4			C		R	
Task 5	A	C		I		
Task 6		I	C	C		R



- Responsible**  
Person assigned to do the activity.
- Accountable**  
Person makes final decisions and has the ownership.
- Consulted**  
Person who must be consulted before a decision or action is taken.
- Informed**  
Person who must be informed when a decision or action has been taken.

## PEX Primer: RACI Matrix

### Creating a RACI Matrix:

1. Identify all the key functions or tasks involved in delivering a project or process. List them either across the top or on the left-hand side of the chart in completion order.
2. Identify all the project/process roles and list them on the other side of the matrix. Avoid using individual names; stick with roles or titles.
3. Complete the cells of the chart identifying who has responsibility, accountability, and who will be consulted and informed for each task.
4. Ensure every task/function has a role responsible and a role accountable for it.
5. No tasks/functions should have more than one role accountable. Resolve any conflicts where there is more than one for a particular task.
6. Share and discuss the RACI Matrix with all the stakeholders and agree on its content before implementation begins.

### Helpful Hints:

- Make sure that every function/task has at least one person assigned for the “R” and “A” roles.
- Keep the “I” category to a minimum to reduce potential bottlenecks in communication.
- Make sure everyone understands what is involved in each of the roles and responsibilities as they are outlined on the matrix.
- Post the matrix at every meeting with the team (unit or project) as a reminder of roles and responsibilities.

*Example of a RACI Matrix from Transportation CIP process (Nov 2015)*

	Step 1: Annual Budget Process									
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3 (a)
	Annual Process	Scope / Schedule	Refined List	Cost Estimates	Funding / Approp	Dept Approval	Project Submittal	Staff Notified	Detailed Review	Initiation Memo
Director		I	C	I	C	A	I		C (if changes)	
Deputy Director - Field Operations	C	C	A	C	R	R	I	C	C (if changes)	
Deputy Director - Traffic Engineering	C	C	A	C	R	R	I	C	C (if changes)	
Transportation Financial Team	C		C		R	R	C	I	C (if changes)	
Transportation Planning / CIP	A	A	R	A	A	R	A / R	A	A	A / R
Field Operations*	R	R	C	C	I	C	I	R	R	C
ITS*	R	R	C	C	I	C	I	R	R	C
Bike / Pedestrians*	R	R	C	C	I	C	I	R	R	C
Traffic Engineering*	R	R	C	C	I	C	I	R	R	C
Engineering Dept		C		R		C			C (if changes)	
Other City Depts					C (OMB)	C (OMB)				

\* The four client groups will be involved when the projects are related to their groups.

**BACKGROUND / BUSINESS CASE**

- What issue or problem do you wish to solve?
- Why is this issue important to solve now?
- What benefits do you anticipate from solving the problem (e.g., quality, timeliness, cost, customer/employee satisfaction)?

**STAKEHOLDERS**

- Who are internal and external customers?
- Who are team members that will participate in the improvement effort and help complete the A3 Problem Solving Tool?

**CURRENT CONDITION**

- What do you know? What customer, process, program data/measures do you have on the problem (location, patterns, trends, frequency, factors)? Answer questions like: **What** waste is occurring? **Who** is making the errors? **Where** are the bottlenecks occurring? **When** are the delays occurring?
- What don't you know and need to find out? Develop a Data Collection Plan that includes: What information/data do you need to collect? Who will collect the data? Who will prepare the visual (bar chart, trend, pie chart)? By when will the visual be ready?
- What is the Problem Statement? What specific performance measure needs to improve? You need to understand the scope and nature of the problem before you can create a problem statement.

**FUTURE CONDITION**

- What is the future state you want to achieve?  
Example: Reduce/Increase the number/percent of <?> from <current level> to <desired level> by <date>.

**ANALYSIS / ROOT CAUSES**

- What are root causes? Why is the error/waste/unnecessary hassle occurring?  
➤ If the root cause is not obvious, use a root cause analysis tool. (Tools: 5 Whys, Fishbone Diagram, Process Mapping.) Use the simplest tool to show cause-and-effect down to the root cause(s). The root cause should be specific – not vague like “poor communication”.
- Does our data verify the root causes? – a team may need to collect additional data to verify the root cause(s).

**SOLUTIONS / COUNTERMEASURES**

- What solutions will solve the root causes? (Tools: Brainstorming and Affinity Diagram)
- What solutions are best and you should recommend?  
➤ Tool for a few primary options: Impact Effort Matrix  
➤ Consider including an evaluation of the status quo (no change) option
- How will you mitigate or resolve negative impacts?
- What communication or stakeholder engagement is needed? (Tool: Action Plan)
- What training is needed?
- How will you measure performance and sustain improvements?

**ACTION ITEMS**

Task	Owner	Proposed Date	Actual Date

- What tasks or actions do you need to take? Who will be responsible for the task? When should the task be completed? (Tools: Action Plan)
- What support and resources are needed for each task?

**METRICS/FOLLOW-UP**

- What metrics will you use to track progress and performance? How you will validate results?
- How and when will you check progress and performance (e.g., daily, weekly, 30, 60, 90-days)?
- What processes will you use to enable, assure, and sustain success?
- How will you communicate results and share what you learn with others?

**BACKGROUND / BUSINESS CASE**

**STAKEHOLDERS**

- Customers:
- Team Members:

**CURRENT CONDITION**

**FUTURE CONDITION**

**ANALYSIS / ROOT CAUSES**

**SOLUTIONS / COUNTERMEASURES**

**ACTION ITEMS**

Action	Owner	Proposed Date	Actual Date

**METRICS/FOLLOW-UP**

## Four Levels of Results / Outcomes (Logic Model)

First Level: In-Process (before output is produced)	Second Level: Immediate	Third Level: Intermediate	Fourth Level: Ultimate
This first level indicates <b>how well</b> the program/product/service was produced and delivered	The second level is the change you would expect as a result of the target audience receiving or experiencing the program/product/service/information/ training	The third level is the change that is happening as a result of what the target audience is actually doing with what they received/experienced at the second level	This fourth level is the big picture change that is happening in the customer group or community as a result of the changes made in the third level
<ul style="list-style-type: none"> <li>• Turnaround times</li> <li>• Response rates</li> <li>• Processing time</li> <li>• Cost</li> <li>• Accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Awareness</li> <li>• Understanding</li> <li>• Skills</li> <li>• Satisfaction</li> <li>• Attention / Care</li> <li>• Issue Resolution</li> </ul>	<ul style="list-style-type: none"> <li>• Attitude/Perceptions/Behavior</li> <li>• Participation</li> <li>• Compliance</li> <li>• System stability</li> <li>• Minimized negative effects</li> <li>• Aesthetics</li> </ul>	<ul style="list-style-type: none"> <li>• Health</li> <li>• Safety</li> <li>• Mobility</li> <li>• Justice</li> <li>• Prosperity</li> <li>• Education</li> </ul>

### Notes:

- At least one outcome statement (per Business Objective and Core Business Process) should reflect immediate or higher-level outcomes
- Outcomes statement should be written as end state; expressed as if it were an observable fact.
- Avoid statements beginning with or including action items (e.g., provide, create, maintain, manage, prevent, oversee, sustain, etc.)
- Watch for “are provided” or “customer gets”. Ask *why* or *what do you expect to happen* when customer receives the service. Preferred usage is customer focused (i.e., what the customer receives, not what the department does)
- The desired outcomes *should benefit something or someone outside* the organization, not the department itself.
- Statement should contain one outcome only. If more than one is included, the different outcomes should be clear and distinct.
- Avoid acronyms, jargon, or vague language that might be subject to interpretation.
- Avoid “standards or regulations met” or “in compliance.” Instead list the actual outcomes that occur because the standard or compliance are realized.

**Examples: External Facing (fourth-level outcomes)**

- The community is safe
- The community uses safe transportation networks
- The community has clean air
- The community has safe, clean, and available water
- The community has access to arts and cultural experiences
- The community is healthy
- The community uses public parks and recreation programs
- The community has affordable and reliable energy
- The community has safe residential and commercial buildings
- The community is free from health hazards caused by trash and refuse in public spaces
- The community uses library learning materials and attends programs

**Internal Facing** (a public good: to the benefit or well-being of the city government). Beneficiaries are city government organization, city staff

- City of Mesa staff has access to safe and reliable vehicles
- The City of Mesa uses its resources wisely
- The City of Mesa is financially strong
- City of Mesa staff has secure, reliable, and available information technology systems
- The City of Mesa communicates effectively with citizens and stakeholders
- The City of Mesa attracts and retains businesses that have high-quality jobs (wages) and growth potential
- City of Mesa staff works in safe and clean facilities
- The City of Mesa has a talented, skilled, and engaged workforce
- The City of Mesa designs and builds quality buildings and public infrastructure