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Scott VanNess,

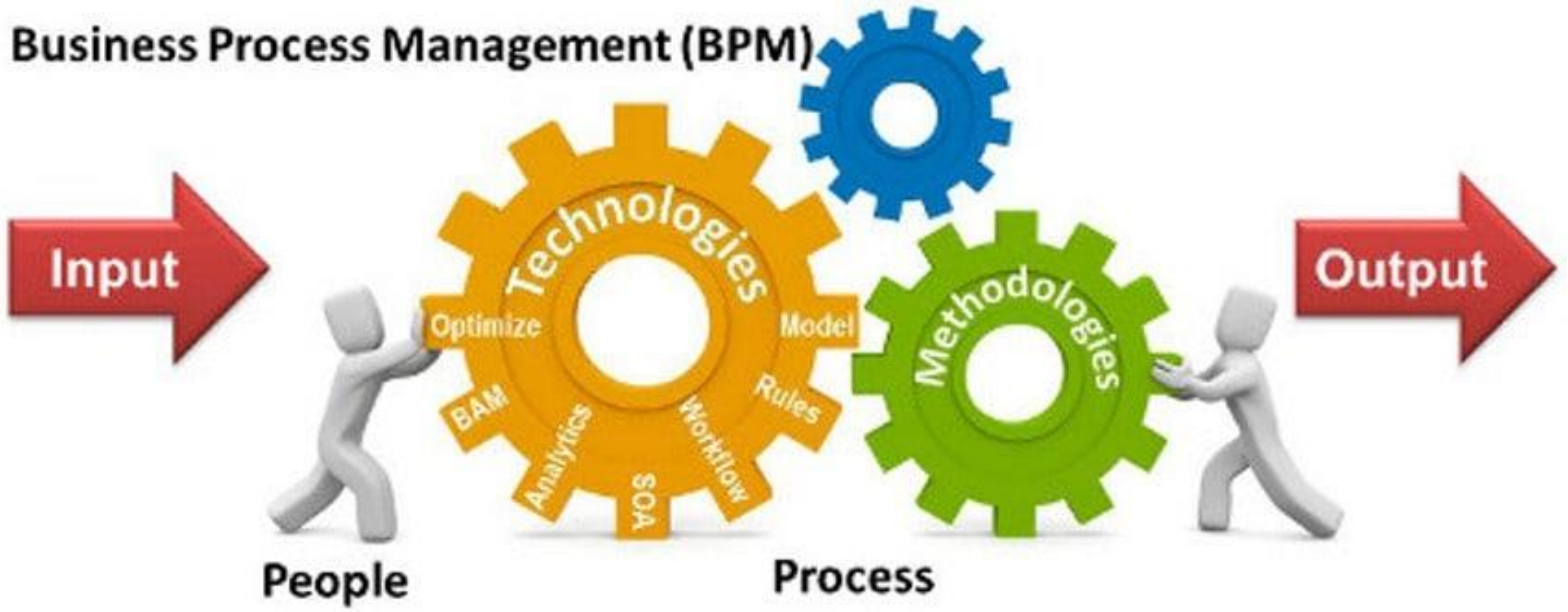
Instructor of Operations Management, UCCS College of Business

Expertise Includes:

- Operations and Supply Chain Management
- Quantitative Methods
- Service Management

Process Management

SCOTT VAN NESS



Tonight’s Class

Introductions

My Philosophy

Reducing Cost for Your Project

Base Line Training

DMAIC

Defining a Process

Value Stream Mapping

Introductions

Scott Van Ness, Instructor of Operations Management at UCCS

Education

- BS in Business Admin, University of Colorado Denver
- MBA in Management, Golden Gate University
- Lean Six Sigma Master Black Belt

Professionally Qualified Instructor

- USAF Retired Lt Col (21 years) – logistics/maintenance background
- Small Business Owner – Skills Academy DP, Biz Lend Pro
- Worked in corporate supply chain/logistics work – Target Corp. for five years

Introductions

Tell us who you are

What you want to get out of this session

My Philosophy on Process Management

Lots of money being made selling these programs

It doesn't have to be that complicated

Yes – there is some math involved, but it is not that tough

Makes you think Big Picture

I will give you real world tools that will help with this project and for the future of your efforts

Reductions vs. Profit

Focus in operations and processes is on reductions

Profit = Revenue – Expenses

We focus on reducing expenses

Reductions vs. Profit

Efficiency and Effectiveness

Where We Are Going

Baseline – White Belt Training

Lean Six Sigma White Belt Training

SCOTT VAN NESS

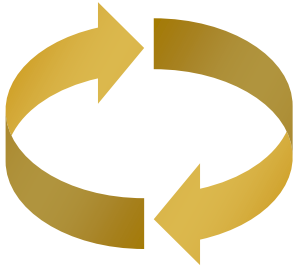
LEAN/SIX SIGMA MASTER BLACK BELT

What is Lean Six Sigma?

Lean
Speed + Low Cost

- **Goal** – Reduce waste and increase process speed
- **Focus** – Identify non-value-add steps and cause of delay
- **Method** – Identify and remove all tasks not customer valued/driven
- ***Kaizen's are the primary improvement vehicle of Lean***

Lean Speed enables Six Sigma quality (Faster cycles of experimentation/learning)



Six Sigma
Culture + Quality

- **Goal** – Improve performance on customer Critical-to-Quality requirements. Decrease variation & improve quality.
- **Focus** – Use DMAIC with tools to eliminate variation
- **Method** – Management engagement; align process performance to customer requirements

Six Sigma quality enables Lean Speed (Fewer defects means less time spent on rework)

Lean Six Sigma optimizes capacity, reduces cycle time performance and eliminates variability in all processes

Listen to the Voices

VOC = Voice of the Customer

- Who is the customer?
- What does the customer want from us?
- Identify the key customer issues and translate them into specific, measurable, critical customer requirements

VOP = Voice of the Process

- What is the process revealing?
- What is it capable of?
- Provides a visible representation
- Ascertains variation
- Allows for categorization of value add
- Brings visibility to waste

VOB = Voice of the Business

- Identifies value levers (i.e. strategy, market performance)
- Originates from financial information and data
- Looks at financial effort and outcomes
- Considers the requirements/needs of the shareholders

VOE = Voice of the Employee

- What does the employee value?
- Provide significant insight into daily processes
- Their influence is critical to positive change
- Crucial contributor to the business's success

Categorizing Waste

Non Value-Add Activities (T.R.I.M.W.O.O.D.)		Examples
Transportation	•Moving material/product from one place to another	•Moving product upstairs, then back downstairs
Resources	•Untapped and/or misused resources	•Improper talent utilization (masters graduate waiting tables)
Inventory	•Material/product/information waiting to be processed	•Unloaded freight waiting to be received
Motion	•Excess movement and/or poor ergonomics	•Carrying groceries in to the house one bag at a time
Waiting	•Delays caused by shortages, approvals, downtime	•Waiting four weeks for a doctors appointment.
Overproduction	•Producing more than is needed	•Manufacturer creates 1,000 pill bottles when actual demand is 100
Overprocessing	•Adding more value than the customer is paying for	•Prepping supplies in an OR; not surgery specific kits
Defects / Rework	•Failures occur in a process; the customer's needs are not met	•Misdiagnosing a mechanical issue with a vehicle

What Does This Look Like

https://www.youtube.com/watch?v=jYby_HczyDA

A Process to Get You There

- Specific process that is employed by Lean Six Sigma to achieve results
- Formally: “a structured, closed loop, team oriented application of the scientific method”
- Real terms: a 5-step organized process using data to drive decision making

Measuring – Metrics Matter

- Six Sigma uses a **QUALITY** metric known as Sigma Level

- Calculated based on the number of defects for every million opportunities (DPMO or DPM)

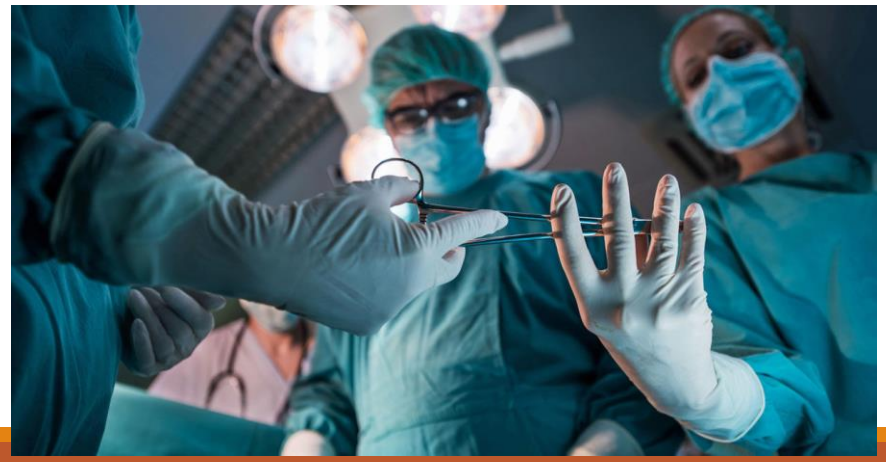
6 Sigma Level = 99.9997% of the time we are defect free

That means a product/service only has 3 defects for every million opportunities

Is That Good?

99.9% would mean . . .

- 4 million babies – 99.9% -- 4,000 families a year would take home the wrong baby
- Surgeries – 99.9% -- 70,000 would be performed on wrong body part
- Bolts in seat belts – 99.9% -- 126,000 missing bolts a year on 14,000,000 vehicles

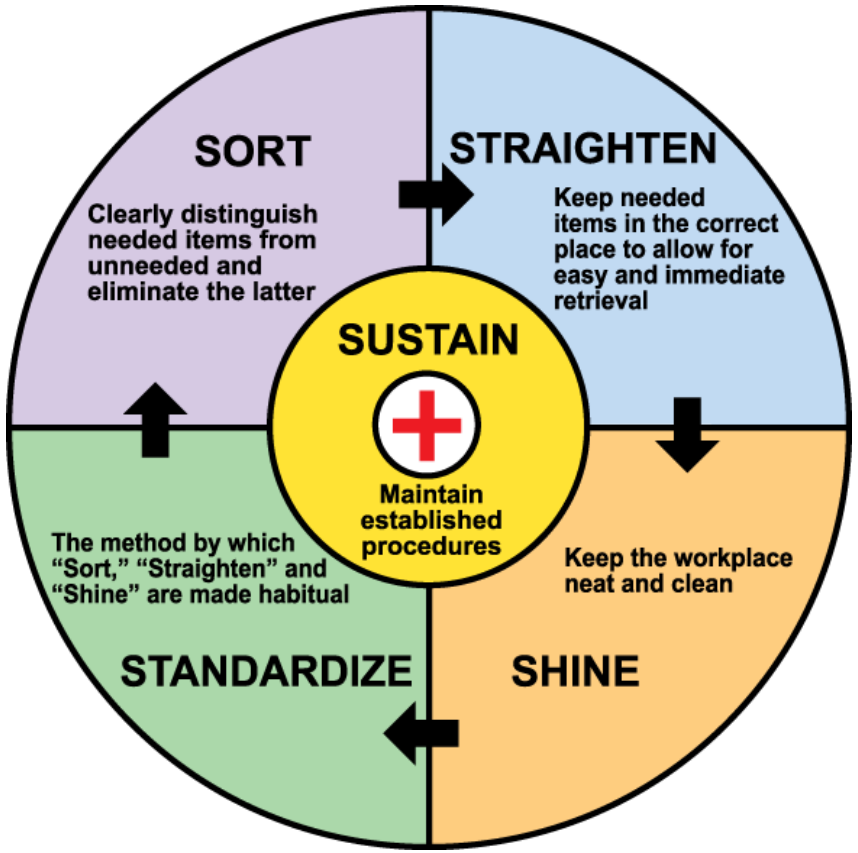


Preventing Defects

- Poka-Yoke
  - Japanese for “mistake-proofing”
  - Prevent defects by not allowing them to occur

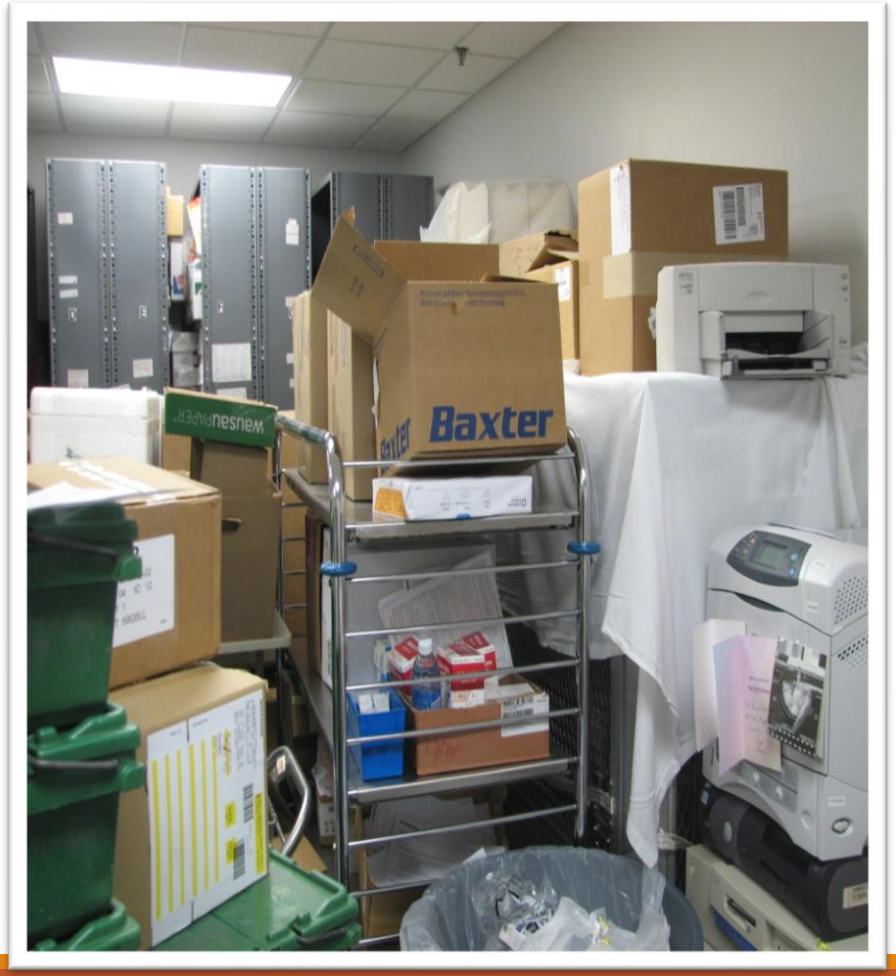
Preventing Defects

5S


SORT
Clearly distinguish needed items from unneeded and eliminate the latter
STRAIGHTEN
Keep needed items in the correct place to allow for easy and immediate retrieval
SUSTAIN
Maintain established procedures
STANDARDIZE
The method by which "Sort," "Straighten" and "Shine" are made habitual
SHINE
Keep the workplace neat and clean

5S the Workplace

A place for everything & everything in its place!



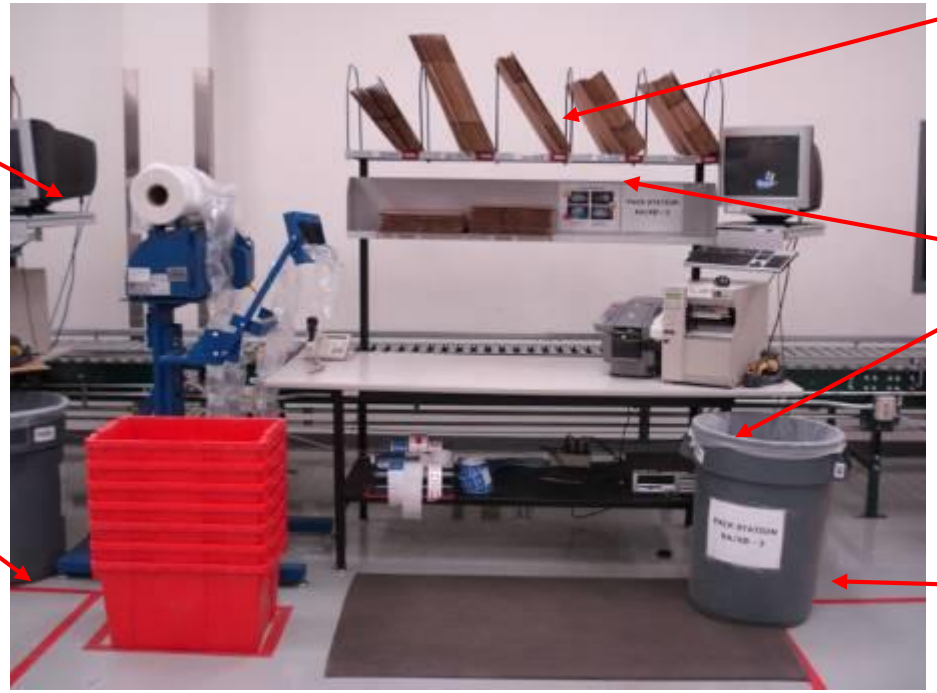
Before

After

Workstation 5S Standardized

Supply locations clearly identified.

Void-fill machine assigned to each pack station and not allowed to build up WIP

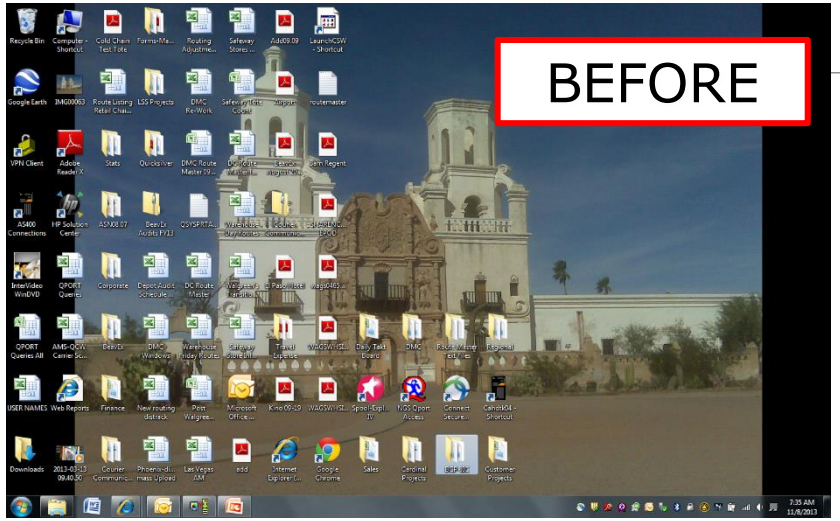


Garbage Can labeled and assigned to each pack station.

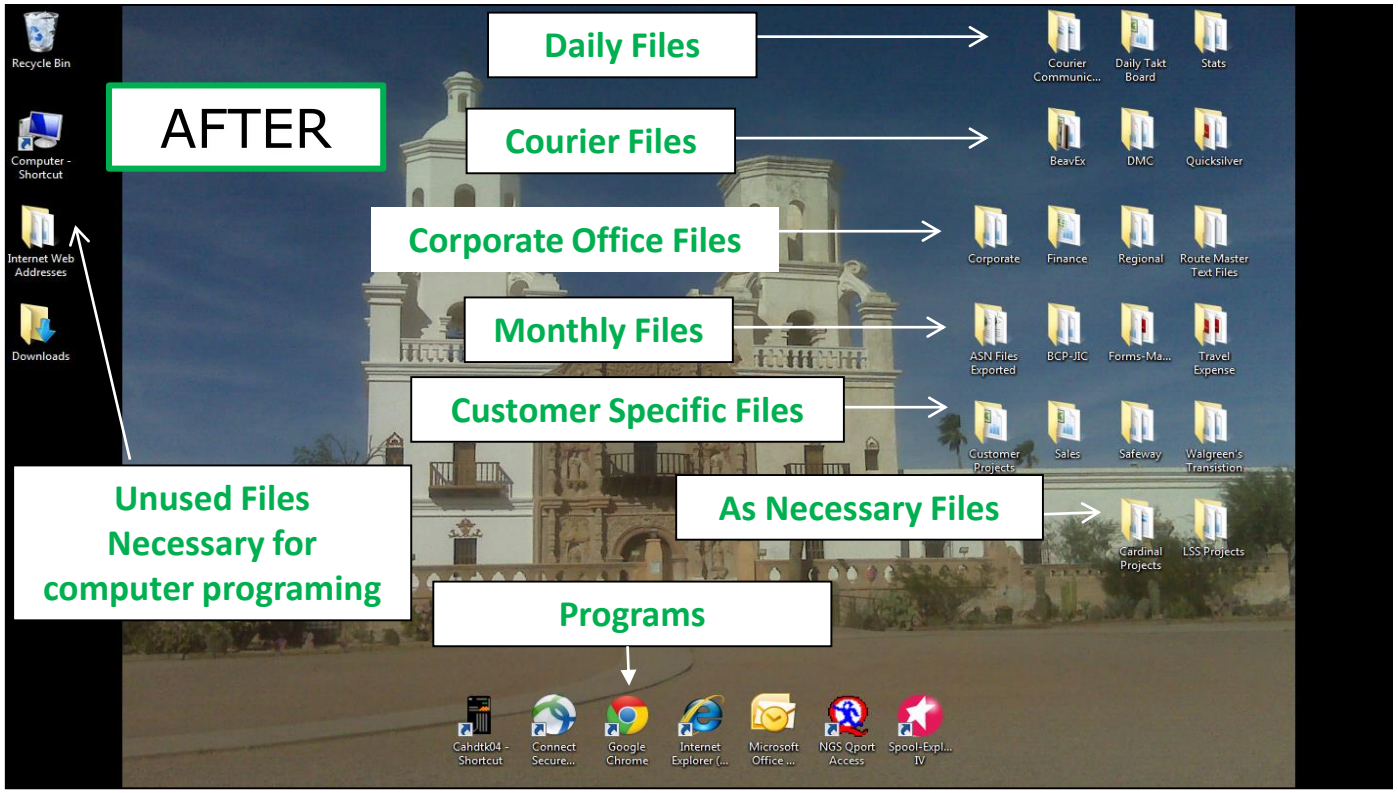
Tote storage area taped out on floor.

Area for cart taped out on floor.

Even 5S on the Desktop



Work indeterminable – no clear direction on where focus should be



Shadow Boards

Shadow Boards

DMAIC

Define

Measure

Analyze

Improve

Control

Structured process for improvement projects to follow

Defining a Process

This can be difficult – especially if this is something you do everyday

Important to break this down to show which parts of a task or tasks you are trying to measure

Good place to start – who is the **Process Owner**

- Single individual (or group) with responsibility for the end-to-end process
- Is it:
  - A. You
  - B. Customer
  - C. Supplier
  - D. Stakeholder
  - E. All of the Above

Define

Define issue that needs to be processed out

- What is the issue?
- How often does it happen?
- What is the impact of the problem?

Measure

Processes have to be measurable – otherwise they cannot be analyzed

Cannot determine effectiveness unless there is a measurement

- Time
- Cost
- Hours

Measure

Getting data is key

- How do we measure the problem?
- What data do we collect to measure the process?
- How reliable is this data?
- What is the current process performance?

Measure

Some processes are pretty easy to measure

- Transactions
- Building/making/moving something

Others are tougher to get numbers on

- Service processes
- Process that require a lot of customer interaction
- Processes that are shared with other agencies

Analyze

What is the root cause of the issue?

- How does this process currently work?
- What does our current knowledge of the process tell us?

Analyze

Take a look at the data

- What does the data say versus what you know?
- Can we use the data to verify that the root cause actually affects the process output or is it something else?

Improve

Having determined what causes the problem, we now look at how we would improve the process

- What possible solutions could you implement?
- Which ones will work best?
- When, where and how shall we implement the solutions?
- Make sure your solutions addresses the root cause?

Control

Ensuring the new process is stable and under control

Many organizations drop this part of the process

- Has the project been achieved?
- Are the improvements now part of regular business operations?
- Is the solution sustainable?

DMAIC

Forces organization to use systematic approach to designing and fixing processes

Initially it will be pretty rigid, but areas start to meld together as you get more experienced doing this

There might even be some back/forth between areas

Defining a Process

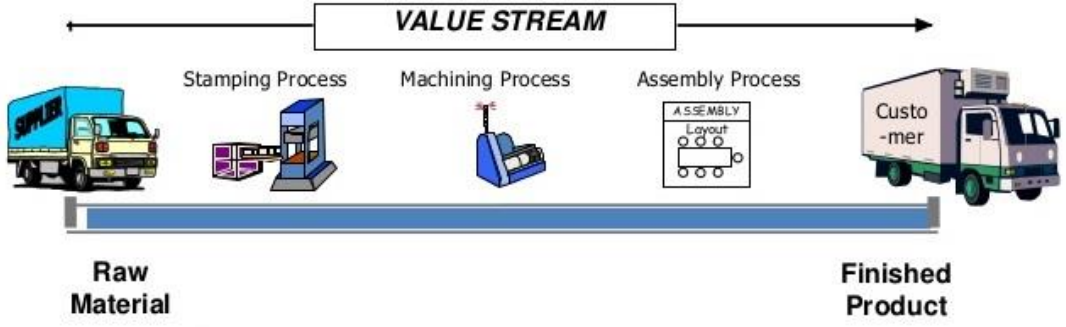
Scope of the Process

Boundaries of the Process

Limitations of the Process

Value Stream Mapping

A *Value Stream* is the set of all actions (both value added and non-value added) required to bring a specific product or service from raw material through to the customer



Value Stream Mapping

Gee Whiz Stuff

- Toyota came up with this process
- Efficiency is the key – not necessarily the car or product being made

Value Stream Mapping

Toyota has one of the most efficient distribution systems – for service parts

Dealers pre-diagnose and pre-order parts they need – they don't stock them

Daily small deliveries of parts

They do this with 400,000 part numbers across the globe

Everything is based on what the customer needs – if the customer does not need it, it is eliminated

Value Stream Mapping

By focusing on what the customer needs/feels is important, it eliminates non-value added (TRIMWOOD) processes/events/time

Every time an issue comes up, ask these questions:

- Is This Value Added to the Customer
- Can I Successfully Explain Why the Customer is Paying for This

Value Stream Mapping

Big key is learning to distinguish value creation from waste

Think about this every day

Value	Waste
An activity that directly achieves customer needs. Something a customer is willing to pay for, or perceives value. 	Activities that consume time or resources but do not directly achieve customer requirements. 

Value Stream Mapping

It’s like taking a walk through a process

Helps you get outside the box and see the big picture of impact

Re-focuses you on the customer

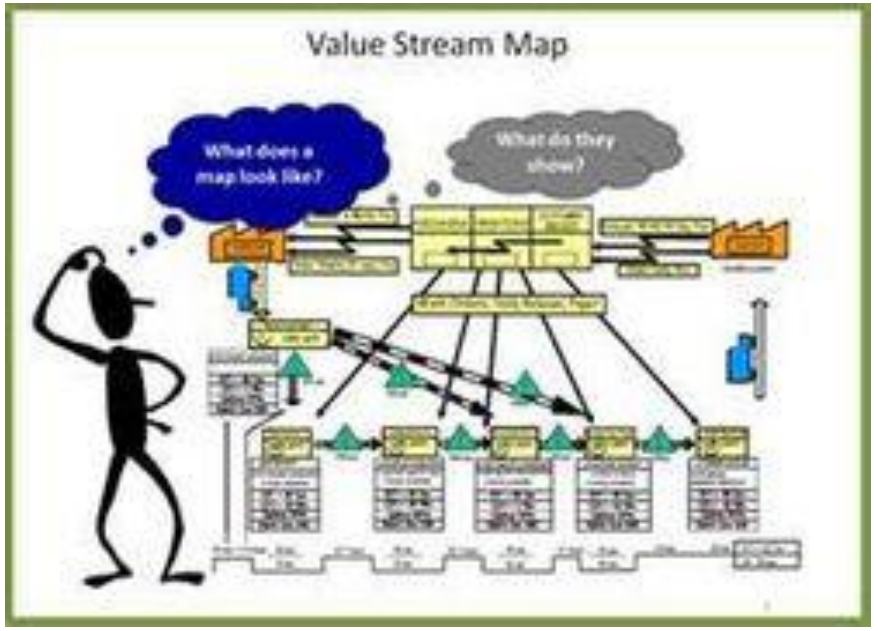
More useful than quantitative tools (oh the horror!)

Ties together lean concepts and techniques through a logical and understandable process

Value Stream Mapping

This doesn’t have to be this complicated

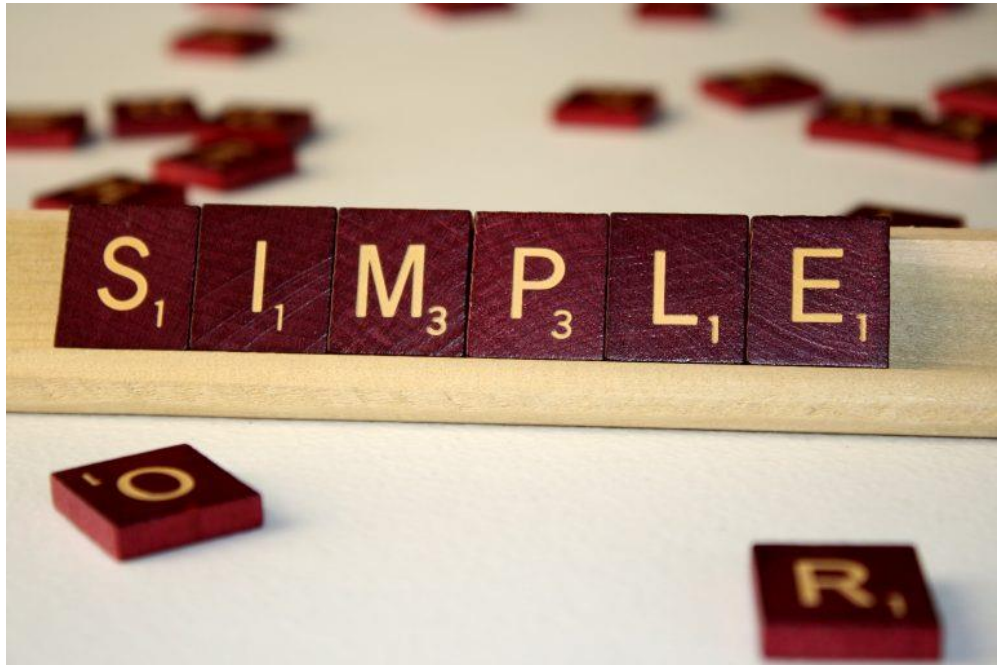
Lots of money can be spent (or not spent) on this issue



Value Stream Mapping

Value Stream Mapping made simple

- https://www.youtube.com/watch?v=3mcMwlgUFjU&list=PL6dpEU8FBkZ_n728FcveFnAgxCMGwzSnE



Value Stream Mapping

Let’s do a Value Stream Map

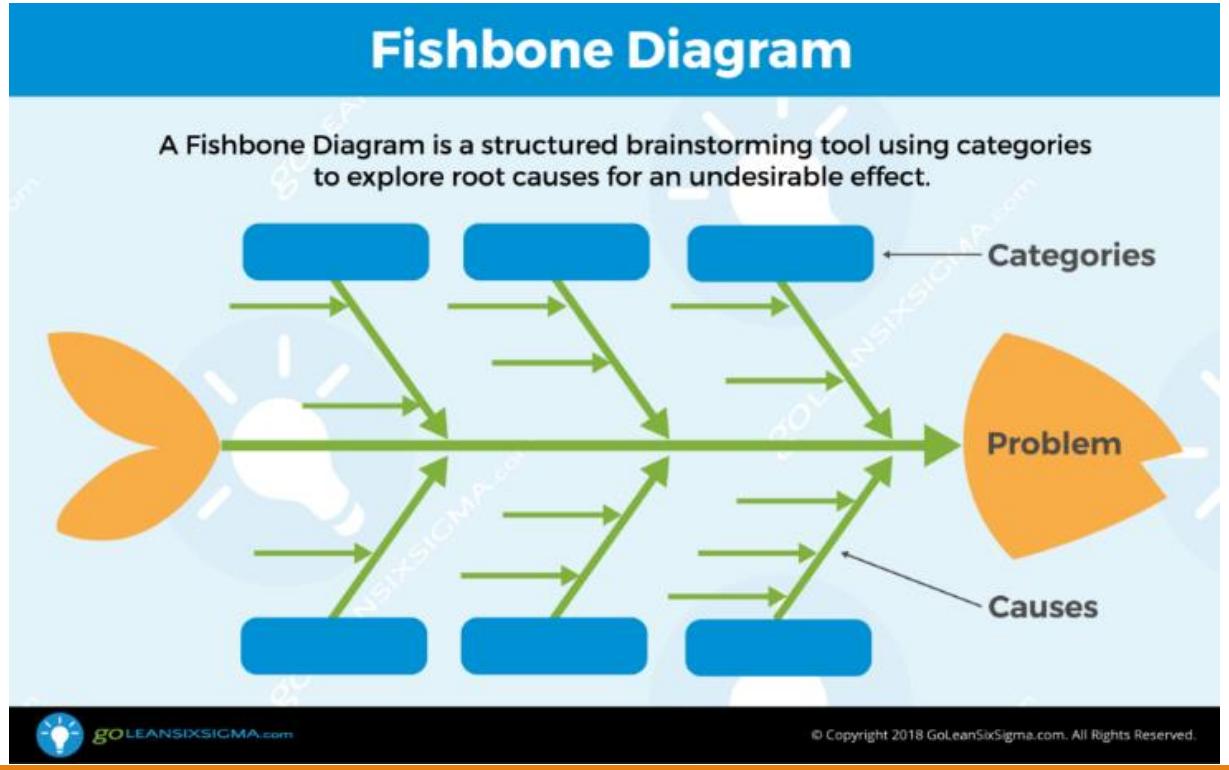
Divide into teams

- Pick a process – could be a work process you are dealing with now . . .
- Or something else
- Focus on customer
- Eliminate non-value added stuff
- Don’t worry about doing these – the process will always improve somewhat

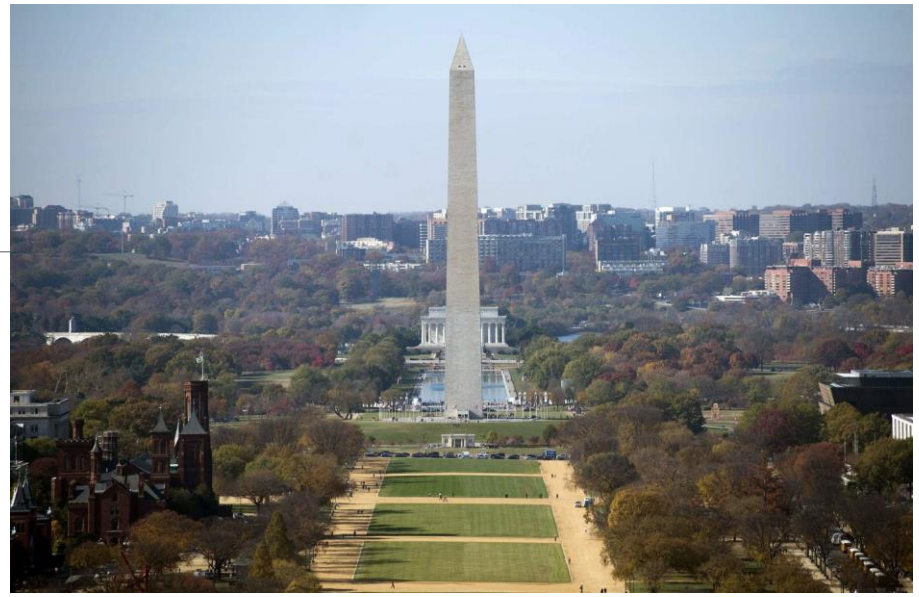
Root Cause Analysis

During DMAIC/SIPOC/Value Stream Mapping, you might come across some root causes

Good to focus on these because this is the pay dirt when analyzing or fixing processes



Root Cause Analysis



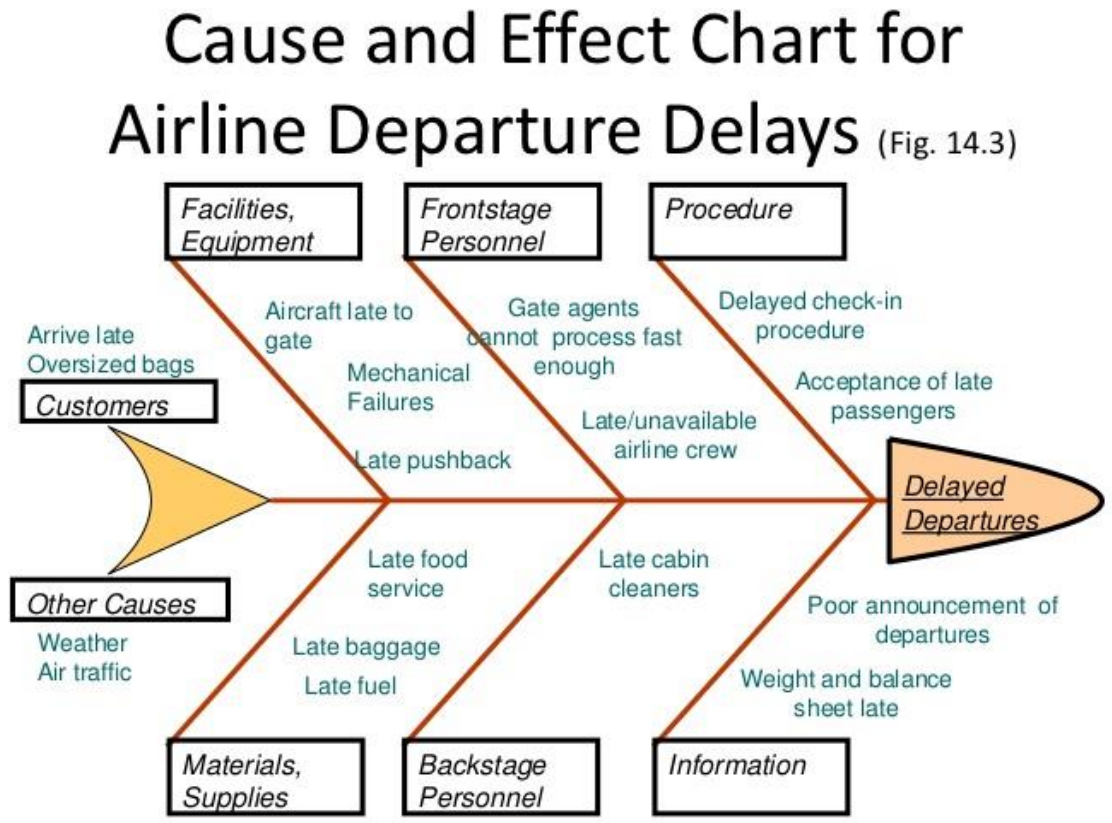
Not knowing the root cause can lead to costly band aids

Drill down – find the root cause

Example – the Washington Monument was degrading

- Why? Use of harsh cleaning materials
- Why? To clean up after pigeons
- Why so many pigeons? They like spiders and there are a lot of them on the Washington Monument
- Why so many spiders? They like gnats and there are a lot of them on the Washington Monument
- Why so many gnats? They are attracted to light at dusk (but not after sunset)
- **Solution – Turn on the lights later in the evening**

Root Cause Analysis




Shopping
Food
Entertainment
Friends & Family
A Great Thanksgiving Holiday
Cyber Monday
New Products
Black Friday
Sides
Dessert
Gravy
Main Course
Cranberry Sauce
Macy's Parade
Board Games
Football
Relatives
Children

Today

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Contact Info

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