ORION
DEVELOPMENT GROUP

Lean Six Sigma
Green Belt Certification
for Public Pension Professionals

March 3-4, 24-25, April 14-15, 2021

ABPMP International
ASSOCIATION OF BUSINESS PROCESS MANAGEMENT PROFESSIONALS

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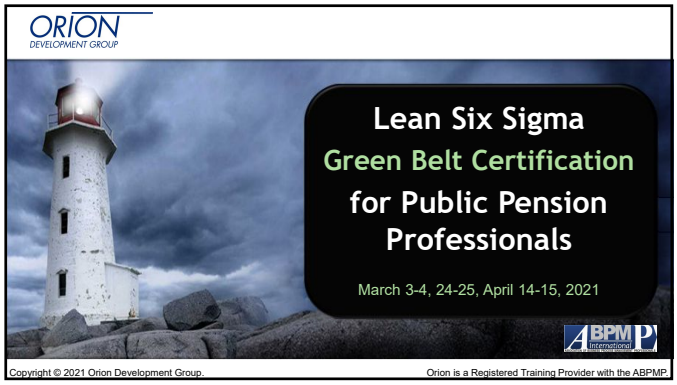
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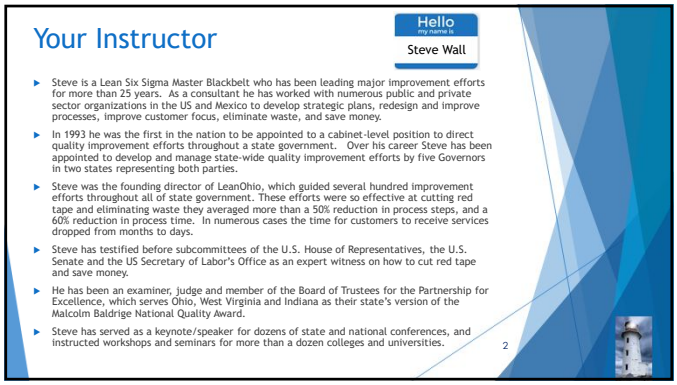
Your Instructor
Hello
my name is
Steve Wall
Steve is a Lean Six Sigma Master Blackbelt who has been leading major improvement efforts for more than 25 years. As a consultant he has worked with numerous public and private sector organizations in the US and Mexico to develop strategic plans, redesign and improve processes, improve customer focus, eliminate waste, and save money.
In 1993 he was the first in the nation to be appointed to a cabinet-level position to direct quality improvement efforts throughout a state government. Over his career Steve has been appointed to develop and manage state-wide quality improvement efforts by five Governors in two states representing both parties.
Steve was the founding director of LeanOhio, which guided several hundred improvement efforts throughout all of state government. These efforts were so effective at cutting red tape and eliminating waste they averaged more than a 50% reduction in process steps, and a 60% reduction in process time. In numerous cases the time for customers to receive services dropped from months to days.
Steve has testified before subcommittees of the U.S. House of Representatives, the U.S. Senate and the US Secretary of Labor's Office as an expert witness on how to cut red tape and save money.
He has been an examiner, judge and member of the Board of Trustees for the Partnership for Excellence, which serves Ohio, West Virginia and Indiana as their state's version of the Malcolm Baldrige National Quality Award.
Steve has served as a keynote/speaker for dozens of state and national conferences, and instructed workshops and seminars for more than a dozen colleges and universities.
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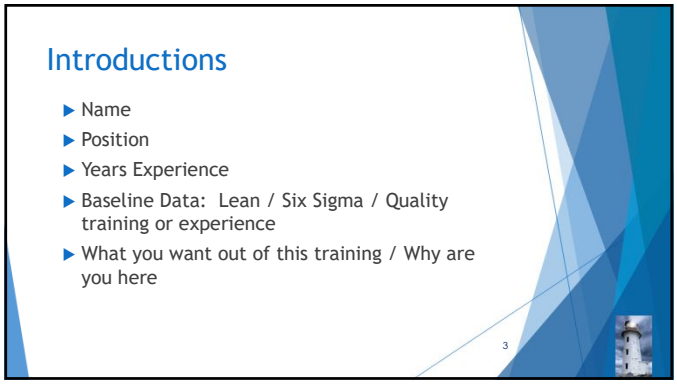
Introductions
Name
Position
Years Experience
Baseline Data: Lean / Six Sigma / Quality training or experience
What you want out of this training / Why are you here
3

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Green Belt Training Metaphor: Airplane Pilot License

Agenda:

Ground School	Flight Simulator	Co-Pilot	Flight
Body of Knowledge	**Case Studies and Simulations**	**Project Selection and Planning**	**Green Belt Project Completion**
• Purpose • Principles • History • Examples • Understand D.M.A.I.C. • Learn Multiple LSS Tools	• ID Common Wastes • Opportunities and Challenges • Problem Solving Techniques • Potential Results	• Define • Charter • Scope • Determine Goals • Data Collection Plan	• Complete Define Stage • Measure • Analyze • Improve • Document Results • Control Plans • Present Project

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Two Days Classroom	Home Work	Two Days Classroom	Home Work	Two Days Classroom
Phase 1 • Lean Six Sigma principles • Select, Scope and charter improvement project • Learn Lean tools and apply to your project • Work on "Define" phase of DMAIC process • Begin Measure and Analyze phases	**Phase 2** Review classroom work with your team Collect and confirm baseline data Complete Process Map and other "define" tools Review progress with Steve	**Phase 3** • Identify root causes • Learn "Analyze" and "Improve" tools, and apply to project • Mistake-proof your process • Develop potential improvement ideas • Draft new process, and determine potential measurable improvements	**Phase 4** Review classroom work with your team Complete 'analyze' and "improve" steps of project Develop implementation plans Review presentation with Steve	**Phase 5** • Learn how to facilitate other people's projects • Display real or anticipated improvements • Create dashboard to track implementation and results • Finalize PowerPoint presentation • Present Green Belt project to class
March 3-4	Three Weeks	March 24-25	Three Weeks	April 14-15

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What is a **Green Belt?**

The Green Belt has advanced knowledge and experience using Lean Six Sigma

They:

- Typically attend up to 2 weeks of training and coaching (classroom and workplace)
- Have conducted or co-facilitated a basic improvement project and achieved documented results
- Are able to assist Black Belts with more complex process improvement projects
- Assist, mentor or coach other people's improvement efforts
- Serve as organizational leaders, creating an atmosphere of continuous learning and an environment that embraces change.

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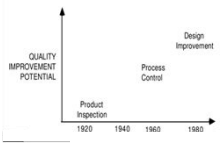
The Evolution of Improvements



- Ready, Fire, Aim
- Slot Machine Management
- **Plan** - **Do** - **Check** - **Act**
- "Japanese" Management
- TQM
- Malcom Baldrige Quality Award
- Six Sigma
- Lean

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A Word About Words: Lean

- **Lean** is about identifying and removing waste and non-value added activities.

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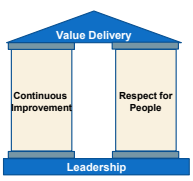
Foundations of Lean

Two pillars of Lean

- Pursuit of continuous improvement
- Philosophy of respect for people



- The true value of Lean is creating an atmosphere of continuous learning and an environment that embraces change

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A Word about Words: Six Sigma

- Six Sigma is a statistical term
- It is about reducing variation and the pursuit of perfection
- Not just 99% good
- A Six Sigma process is one in which 99.99966% of the products are statistically expected to be free of defects – which equates to 3.4 defects per one million opportunities

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Data-Based Decision Making

Data and facts trump argument and opinion to select improvement decisions

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99% Versus 99.99966%

- The difference between 200,000 and 68 wrong prescriptions given to patients each year

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99% Good =

- Two bad landings at most airports EVERY DAY

13

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99.99966% Good =

- One bad landing at most airports EVERY 5 YEARS

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Principles of Six Sigma

Six Sigma

Y = f(x)

Reduce errors

99.99966%

Variation is evil

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Principles of Lean

Lean

Buy in + consensus
= energized workforce

Eliminate waste

Reduce delays

Non Value-added
activities
are evil

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Lean Six Sigma

Six Sigma

Y = f(x)

Reduce
errors

99.99966%

Variation is
evil

Continuous
Improvement

Data-Based
Decision Making

Customer Focus

Employee
Involvement

Simpler, Faster,
Better, Less
Costly

Lean

Buy in + consensus
= energized
workforce

Eliminate waste

Reduce delays

Non Value-added
activities
are evil

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The Primary Goal of Lean Six Sigma

- Both Lean and Six Sigma can achieve impressive measurable results, but the MAIN goal of both is to ….

….Create a **Culture** of Continuous Improvement and Customer focus.

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Green Belt Results

- One office within a large company saved over $16,000 annually with a new filing system. The then implemented the new process in an additional 20+ offices. ($320,000)
- A company reduced the number of errors made on an application form by 88%, saving more over 300 staff hours of re-work annually
- A clinic reduced the number of forms customers had to complete to receive services from 27 to 7.
- A government agency reduced the time it takes to review appeals from 90 days to 11 business days

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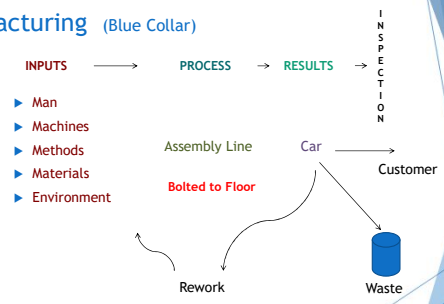
Manufacturing (Blue Collar)



W Edwards Deming 101

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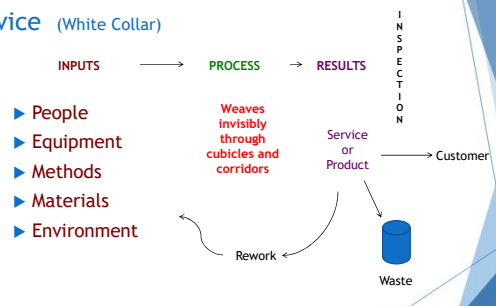
Service (White Collar)



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Metaphorical Toast Making Process

At some point every organization has a process that produces burnt toast

Of the 5 inputs, which do we normally blame for the burnt toast?

- People
- Equipment / Machine
- Materials
- Methods
- Environment

How do we improve burnt toast?

a. Fire old employees and hire new toast makers?
b. Motivate employees by developing incentives for non-burnt toast?
c. Scrape the toast?
d. Fix the toast-making process?

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Three Common Mistakes in Problem Solving

- Assuming you know what the problem is without seeing what is actually happening
- Assuming you know how to fix a problem without finding out what is causing it
- Assuming you know what is causing the problem without confirming it

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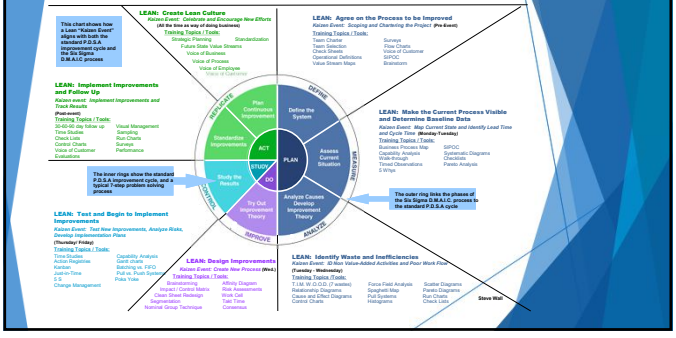
A Roadmap to Results



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Set Your Project Up For Success

- Move from blame and defensiveness to redesigning the process
- Get the right people to work on and support the improvement effort
- Identify customer needs and include when possible
- Scope the project so it can be successful
- Make sure everyone is on the same page

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A Process Improvement Case Study:

Crime Lab

DNA Process Kaizen Event

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Background

- The Bureau of Criminal Investigation processes more than 7,000 DNA cases each year in four crime labs.
- The process is utilized by most law enforcement agencies throughout the state.
- The results of BCI testing impact the viability of related case prosecution.

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The Crime Lab Issues

- DNA testing taking so long it was not ready by trial dates, and judges and prosecuting attorneys were complaining
- Potential for conviction of innocent or release of guilty
- Backlog of Untested Rape Kits
- Newspapers wrote critical articles
- Became a campaign issue
- Huge pressure on scientists to improve, even though "We tried everything!"

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Move To:

Design and facilitate a proven, structured opportunity for all involved to work as a team to learn the best practices for improvement, and then use those skills to analyze the current state, eliminate waste, and implement improvements to build a streamlined process they could all be proud of

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Customers / Stakeholders

- Victims/Victims Family
- Law enforcement agencies
- Courts
- Attorneys
- Accused Offenders
- Attorney General

(Focus Groups)

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Subject Matter Experts Available

Attended part time and/or scheduled time to appear and answer questions from "Parking Lot" lists

- H.R. Experts
- I.T. Expert
- Attorney – Legal Expert
- Retired Sheriff

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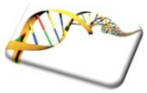
Scope of Event

The process begins when agencies bring evidence to BCI, and ends when the final report is issued or the forensic scientist testifies.



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Out of Scope

Areas that will not change as a result of the Kaizen event are:

- No one loses their job because of the Kaizen event, but duties may be modified.
- Need for additional staff is not dependent on improvement process
- Need for additional monies is not dependent on improvement of process
- No laws, federal regulations or changes related to collective bargaining.
- No IT solutions **until** it is determined that an IT solution is needed.

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Goals & Objectives

- Have ALL cases come in ready to work
- Start work on all submissions within 5 days
- Achieve an average report time of 35 days from submission
- Reduce the number of reports returned for changes after technical and administrative review
- Reduce time while maintaining or improving high quality and accuracy
- Improve customer and employee satisfaction

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Baseline Data

DNA Lab Statistics				
	Days Until Assigned	% Assigned	Total Days at BCI	% Assigned
One Day	122	39%	1	0%
2-7 Days	10	3%	1	0%
8-14 Days	8	3%	1	0%
15-30 Days	19	6%	8	3%
31-60 Days	65	21%	46	14%
>60 Days	92	29%	262	82%

The average processing time for DNA cases was 126 days. 50% were not assigned to a scientist for 30 days or longer

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Current-State Process Map

187 steps
52 handoffs
43 decisions

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Issues the Process Map Exposed:

- Each Crime Lab used different processes
  Question -*What do you do next?* Answer – *"It depends."*
- The tasks "cleaning the lab" and "mixing chemicals" were often in the swim lane for scientists instead of technicians
- The samples did not always come into the labs the same way or to the same person
- If the information from law enforcement was not complete there was significant time spent correcting and adding missing details
- There was a delay when running out of chemicals due to a complicated purchasing process
- The process was full of steps that required waiting for someone else to answer, authorize or approve an action.
- Samples spend a lot of time in storage

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The Original Processes Had:

Team Members add "dots" to their map to indicate where there might be TIM WOOD Waste in the process

- Too many steps
- Too many handoffs
- Caused too much process lead time
- Too many duties for the forensic scientist that could be done by others
- Lot of delays
- Lot of redundancies

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The team brainstormed more than 70 improvement ideas

Garbage in=Garbage out
Only take complete cases
No non-sex cases at less than F3 level
Edit sub. Policy (limit rushes)
Establish better criteria for submission of evidence to reduce non-essential work
Require synopsis & standards on submission
Incomplete is unacceptable
Tighten up compliance with evidence protocol - must have svs std & synopsis
Cases ready to be worked on submission
Require checklist to be completed prior to case acceptance
Incentives for status communication for Detectives & Court
Stop cases at the door if they don't have everything they need
Train LEA better
Tell L.E. & Pros. What is required
OHLEG Training & use
Give Detectives /Inv. OHLEG access to reports
No memos.. OHLEG
Give BCI staff "read" access to OHLEG
Electronic access to court dockets & OHLEG
Mideo access on other computers
Stop attaching CV to each report - stop mailing reports
Automated note taking
Purchase & install barcode system for sample tracking
Dictation software for staff
LIMS generate report from report input info
LIMS that works
LIMS creates reports FB/DNA little FS interaction wizards

Better LIMS - report writing - tracking sample types
IT support to include program for robots
Faster computers
Make more of process electronic
Paperless process
Go paperless
Better data mining tools to track trends and sample types
Take better advantage of OA3s
Have someone else order
Evidence transfer to a minimum
More support with admin functions (Purchasing ordering)
Reassign non-technical tasks to OA3s
Liz have dedicated OA3
OA3 to order supplies (2)
Delegate some responsibilities to OA3
Decrease amount of case transfer
Don't transfer cases/evidence
Less shipping around of case files
Minimize transfer between labs
Eliminate or reduce Fed Exing
Less movement of case packets- only absolutely necessary transfers
Organize DNA vault for incoming evidence
Property room person to move evidence
Place in DNA vault (no transporting from vault to vault)
Good scanners for case files
Better define interpretation guidelines (i.e.: inconclusive)
Bar code readers for DNA sample tubes
Use colored folders to identify case typed priority
Assign additional counties to L&R - from BG area

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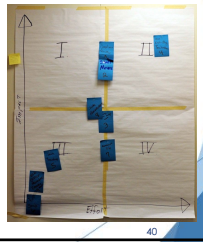
Silent Brainstorm, Affinity Diagram and Impact Control Matrix

Finally ready to start considering specific improvement ideas



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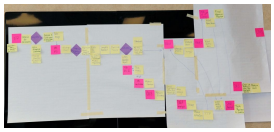
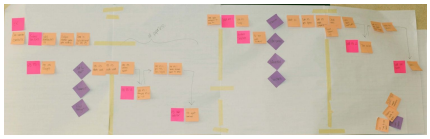
Clean Sheet Redesign





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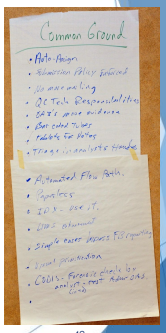
Common Ground



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The New, Improved Process

84 steps
26 handoffs
8 decisions

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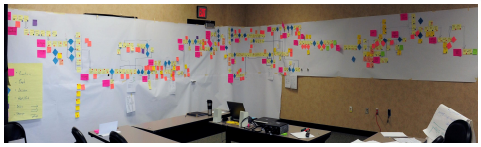
Old Process



New Process

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Key Issues	Major Improvements
Each lab had a separate process	Standardized processes
Forensic samples came in incomplete	Created a new checklist and educational process to ensure more complete submissions.
Scientists doing too many other duties	Moving duties to more appropriate staff . Hiring and using office assistants.
	Future hiring of technicians to free up scientists to do more DNA work
Lead time too long	Reduced steps, implementing paperless process,
Purchasing procedures were burdensome & caused delays	Credit card, blanket POs, pre-approved standard lab supplies vendor
Employees took too long to get help	Dedicated IT staff at BCI

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Implementation Plan

- Submission Expectation action items
- Training plan
- Communication plan
- IT action items
- HR action items
- Fiscal action items
- Data collection

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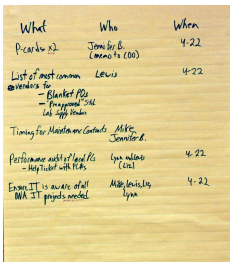
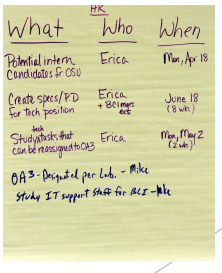
Action Registers

Fiscal Action Plan



HR Action Plan



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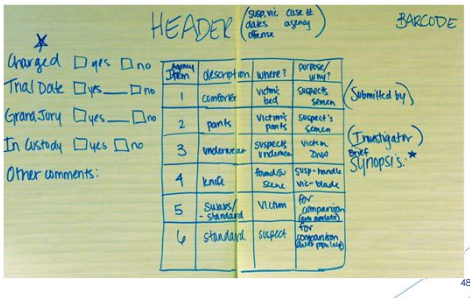
New Standardized Input



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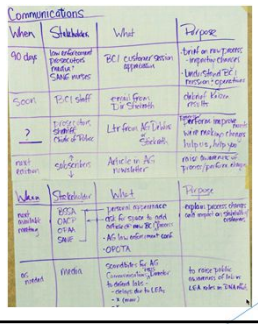
Communications Action Plan

Who will notify customers and staff of changes to the process by when?



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The Results

Measure	Before	Projected After	Difference
Number of Processes	3	1	66% reduction
Steps	187	84	103 less steps -55%
Decisions	43	8	81% fewer
Handoffs	52	26	50% fewer
Forensic Biology Processing Time	50 days	14 days	36 fewer days 72% reduction
DNA Processing Time	126 days	21 days	105 fewer days 83% reduction
Overall Processing Time	117 days	35 days	82 fewer days 70% reduction

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Benefits

- Less paper products
- Reduced postage costs
- Less waiting time
- Less frustration for employees
- Streamlined process
- Process is a product of the employees
- Reduces the opportunity for human error
- Fewer incomplete submissions
- More standardized workflow between labs
- Better use of scientists' time
- Buy in from all
- Standard process that can be explained

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Why the Team thought they were successful:

- Open Communication
- Bringing everyone involved together
- Understand and agree on old way of doing things
- Kept us on track and focused
- We used compromise
- Users involved
- We really learned and trusted the process
- Group decision making
- Ownership
- The right people in the room

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Come Monday…

- Purchasing
- DNA can be stored upstairs (London)
- Help desk
- Eliminate simple biology blood reports

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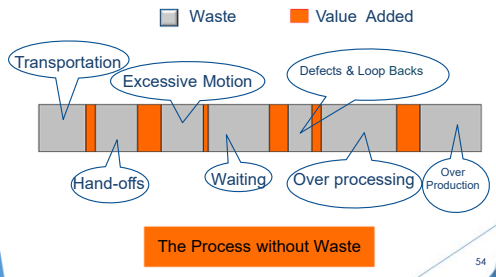
Identify and Remove Waste



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Top 10 keys to designing effective, efficient, customer-focused processes:

1. Make the invisible **Visible**
2. Don't fix blame, **Fix the Processes.**
3. Find the **Root Cause** of problems – don't Band-Aid symptoms
4. **Standardize** your process so customers get the same answer every time
5. Don't assume you know your **Customer's Needs.**
6. **Organize** effectively to eliminate waste (5S)
7. Collect and analyze **Baseline Data** so you know exactly what the current system is producing
8. Don't inspect and react to errors and defects after they occur – **Mistake Proof** your process
9. Communicate **Results** effectively
10. Create **Buy-In, and track progress** to ensure good ideas get implemented

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Key #1: **Define**

- Get everybody on the same page
- Make the process visible so there are no surprises

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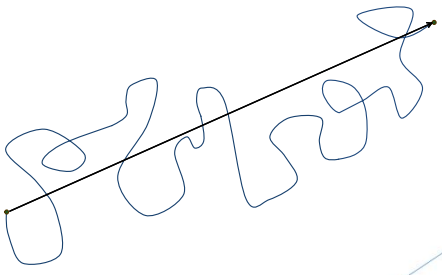
Processes Tend to be Invisible

Point B: RESOLUTION



Point A: REQUEST

What do I need to fix the process?

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Why is it Hard to Make the Invisible Visible?

- Nobody knows the entire process
- Different people do it differently
- Different shifts, locations do it differently
- Supervisors think its done one way – the people who do the work know its done differently
- It has gradually changed over time – requires tribal knowledge
- People have created informal work-arounds over time to deal with inefficiencies

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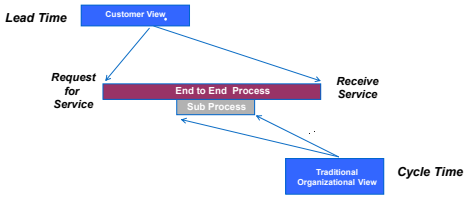
A Word about Words – Cycle Time vs. Lead Time

From when I ask for something to when they tell me the answer



From when I get my assignment until I finish my task and pass it along

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Process Design

- Whatever your results:
  - Lead time
  - Cycle time
  - Errors
  - Costs
  - Rework
  - Customer satisfaction or frustration

…your process is **perfectly** designed to achieve those results

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So, what result is this process perfectly designed to achieve?

Tax Appeal Process 61

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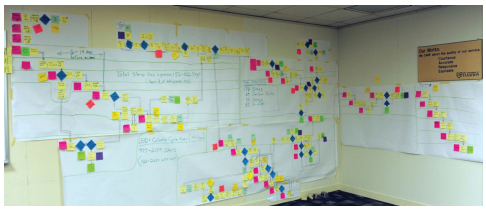
Before and After



Current State = 143 steps, 4 entry points

Future State = 96 steps, 1 entry point

Lead time reduced from 32 months to as few as 7 - 20 days

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Taxation/Tax Appeals

- Four entry points reduced to 1
- 18,000 backlog reduced to less than 3000
- Lead time from as much as two years to just a few days for common appeals
- $529,200 reduced in cost avoidance
- Cost to process simple returns reduced from $105 to $7

- So, how do you get results like that?

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Key #2: Don't fix blame, fix the process

- Move from blaming others for poor performance and defensiveness

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Key #3: ID the Cause Analysis

- Stop treating the symptoms. Cure the disease by identifying the root cause

Example: "*If we just work a couple hours overtime or during the weekend we can get caught up*"

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5 Whys?

What is the problem?

1. Why does it happen?
2. Why does the above happen?
3. Why does the above happen?
4. Why does the above happen?
5. Why does the above happen? (and how do we prevent that?)

66

66

Key #4 – Standardize: (Variation is Evil)

- Variation = lack of standardization
- Common causes of variation:
  - Missing information
  - Unsure of the answer
  - Lack of training
  - Non-standard lists, signs, manuals

Sources and causes of variation make standard business processes appear to be random, and disorganized.

67

67

Processes Should be Standardized

- Customer must always get the same answer no matter who they ask
- Customer must get the same answers no matter what time of the day, or day of the week they ask
- Customer must always get on-time, complete, and accurate information

68

68

Standard Work Exercise:

- **Use the blank side of the paper**
- **Draw a picture of a pig with:**
  1. Nose
  2. Nostrils
  3. Mouth
  4. Eye
  5. Four legs
  6. Body
  7. Tail
  8. Two ears
- **Must complete the drawing in 45 seconds per customer demand**

69

69

70

Key #5: Don't assume you know your customer's needs.

- Make sure customers tell you their needs directly. Make them part of improvement effort.

71

71

Movie Theatre Management

- You own a local movie theatre
- You are going on vacation for 2 weeks
- What 5 items do you want your theatre manager to email every other day

72

72

Movie Theatre Exercise

- Ticket sales
- Expenses
- Concession sales
- Profits
- What movies came in
- Employee problems
- Who called off
- Weather

73

73

Customer Needs

- Line movement
- Good popcorn
- Reasonably priced sodas
- Clean restrooms
- Décor
- Good sound system
- Friendly staff
- Easy parking

74

74

Which can you do something about?

Business Concerns

- Ticket sales
- Expenses
- Concession sales
- Profits
- What movies came in
- Employee problems
- Who called off
- Weather

Customer Needs

- Line movement
- Good popcorn
- Reasonably priced sodas
- Clean restrooms
- Décor
- Good sound system
- Friendly staff
- Easy parking

75

75

VOC - Customer Trends

- Immediate feedback – close to the service
- Utilize social media
- Web utilization
- Raised expectations
- Want it faster
- Want it on-line
- Want it INSTANTLY

76

76

Key #6: Organize effectively to eliminate waste

- Can you find what you need in 10 seconds?

77

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5-S Exercise

- Seiri - (Sort)
- Seiton - (Straighten, Set in Order)
- Seiso - (Shine)
- Seiketsu - (Standardize)
- Shitsuke - (Sustain)

- *Can any item be found in your work area within 10-seconds?*

78

78

Sort

Step 1. Sort - Get rid of all the excess

"When in doubt throw it out!"

79

79

Straighten

Straighten - What must be kept;
make visible and self explanatory

80

80

Shine and Standardize

Shine -Create clean ideal worksite and organize daily

Standardize - Create standards for the area

81

81

5S + Safety

- **Sustain** - Make them a habit
- ***Safety** – Resolve unsafe conditions

82

82

5S + Safety

Before

After

83

83

5S + Safety

Before

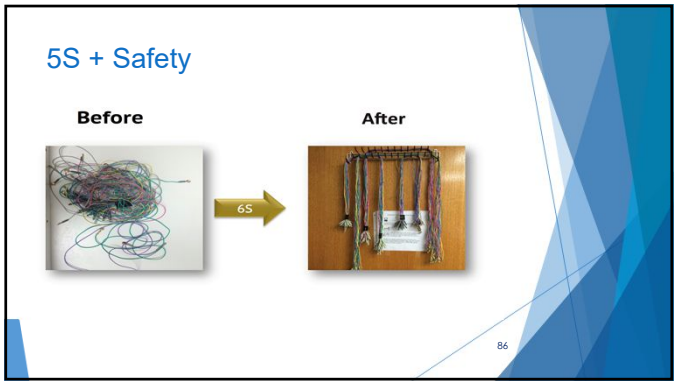
After

84

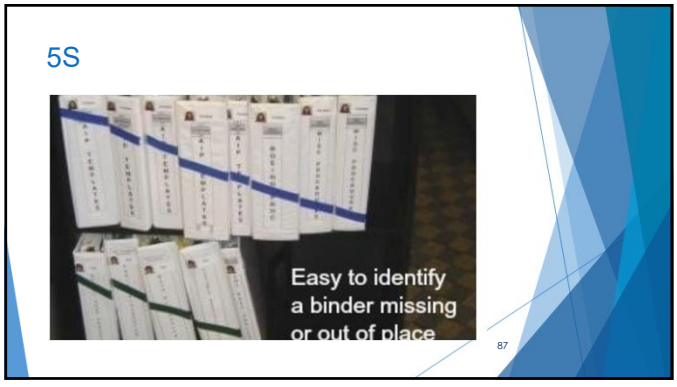
84


Shelves – before
Shelves – after
85

85


5S + Safety
Before
After
6S
86

86


5S
Easy to identify
a binder missing
or out of place
87

87

Project Selection: Are You Hearing Voices?

- Voice of the Business
- Voice of the Process
- Voice of the Employee
- Voice of the Customer

88

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Voice of the Business

The "voice of the business" is the term used to describe the stated and unstated needs or requirements of the organization

- Mission Statement
- Goals
- Burning Platforms

89

89

Voice of the Process

- Process Time
- Errors
- Rework
- Safety
- Backlog
- Cost

90

90

Voice of the Employees

- Employees are closest to the work
- Work frustrations have causes
- Ideas are often withheld
- Know how the process ACTUALLY works
- Buy-in is critical

91

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Voice of the Customer

92

92

Project Selection

- Selection and Scoping Worksheet
- Go / No-Go Checklist
- Project Charter

93

93

Keys to First Efforts

- Results that matter
- Something good gets implemented
- A champion will back the project
- People learn useable tools and skills
- Reduce odds of bad experience
- Establish credibility for Lean Six Sigma efforts

94

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Scoping the size of your improvement project:

- No improvement event should be held without first developing a meaningful yet appropriately- sized scope to ensure success

95

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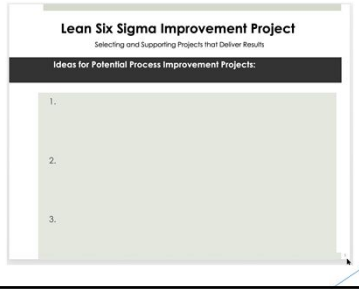
Project Selection Worksheet


Lean Six Sigma Improvement Project

Selecting and Supporting Projects that Deliver Results

Ideas for Potential Process Improvement Projects:

1.

2.

3.

96

96

Typical Process Improvement Projects

- Invoice process
- Benefit estimates
- Counseling sessions
- Separations
- Unclaimed funds
- Contribution Reconciliation
- Onboarding
- Refund Process
- Redeposits and electronic payments
- Appeals process

97

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Chartering an Improvement Project

98

98

S.I.P.O.C.

Suppliers	Inputs	Process	Outputs	Customers
Individuals or organizations that provide inputs to the process.	Material, information and/or services that are required by the process to produce the outputs (People, methods, machines, materials & environment)	The step by step method that produces the output, defined at a very high level- only 5-7 steps	Products, information, services and/or decisions that are produced by the process	Those who receive the process output, pay for it or are directly impacted by the process output

99

99

SIPOC Purpose

- Define and document
- Identify scope
- Level set
- Operational definitions
- Key terms
- Ensure it is a process

100

100

Where to Start

- S: Supplier
- I: Inputs
- **P: Process**
- O: Outputs
- C: Customer

Always start with the Process!

101

101

SIPOC - Process

- High Level: 5-7 process steps
- Reach Consensus
- Use post it notes to document each step
- Beware of those that want to get into the details of process
- Great tool to share with senior leadership

SIPOC and Process Map Case Study

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SIPOC and Business Process Map Exercise

- When a supervisor wants to add a new employee to their staff, or replace one due to turnover, they follow the company's employee hiring process. In general, it involves the hiring manager, the new employee's future supervisor, and the Human Relations office working together to develop the position description. If the Assistant Director approves the position, the information is sent to an independent hiring agency to post. Applications are received by HR, sorted, and the top applicants are interviewed. The process ends when a candidate is notified and accepts the position.
- The organization must follow Federal guidelines and company policies regarding the kinds of questions that can be asked of the candidates. There is an official application for interested candidates to complete. Company policy states that the job must be advertised for 3 weeks, and the top 6 applicants will be interviewed. During the interview the same structured questions must be asked of all applicants, and are scored using an approved answer key. Standardized letters are sent to the winning applicant and those not selected.
- The first step of the process is for the supervisor to request permission from the Hiring Manager to fill a position by filling out a "request to hire form." The Hiring Manager reviews the form, and approves or rejects the request. If approved, the Hiring manager forwards the request to HR. HR reviews the form, and if complete submits it and a recommendation to the Assistant Director for final approval. If not, the form is returned to the Hiring Manager to complete and resubmit. If final approved is granted by the Assistant Director, the form is returned to HR, who prepares the information to be sent to an independent recruiting business to advertise. If a candidate is interested in the job they complete and return the application and a resume to HR. HR reviews the information and sends up to 10 approved names to the Hiring Manager. The Hiring Manager selects 6 to be interviewed. HR, the Hiring Manager, and the future supervisor conduct and score the interview. The top candidate is sent an offer letter. If they accept, the process is complete. If not, the candidate with the next highest score is sent an offer letter.

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SIPOC Template

Supplier	Inputs	Process	Outputs	Customers
Federal Govt. Human Resource Zip Recruiter	Guidelines Policies Interview Q's Scoring Criteria Offer Letters Posting Process		Qualified Candidates Rejected Candidates New Employee Completed Letters	Hiring Manager Applicants H.R. Organization

Request to Hire | Approve Hire | Advertise | Prioritize Top Candidates | Interview | Select and Offer

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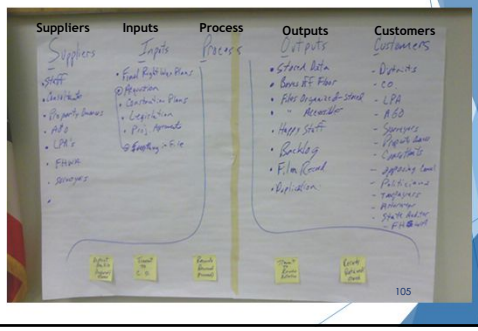
SIPOC



105

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Suppliers

- Identify and document all of the suppliers who provide your inputs
- Customers are often also suppliers

Suppliers: A source of materials, service or information provided to a process

106

106

Inputs

- Identify and document the inputs
- Review each step of the process map to determine what is necessary to complete the step
- Inputs: The products, services and material obtained from suppliers to produce the outputs delivered to customers

Input: (Typically) People, Machines, Methods, Materials, and Environment

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Outputs

- Identify and document the outputs
- Products, materials, services or information provided to customers (internal or external), from a process
- Not all outputs are desirable

What the process produces for the customer(s)

108

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Customers

- Identify and document the customers
- Recipient of each output of your process

Customer is the recipient (person or department) of the process output (product, service or information)

109

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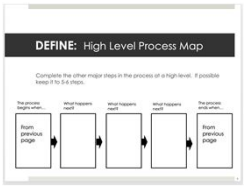
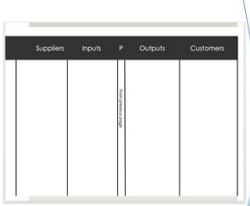
SIPOC Worksheet





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Process Mapping

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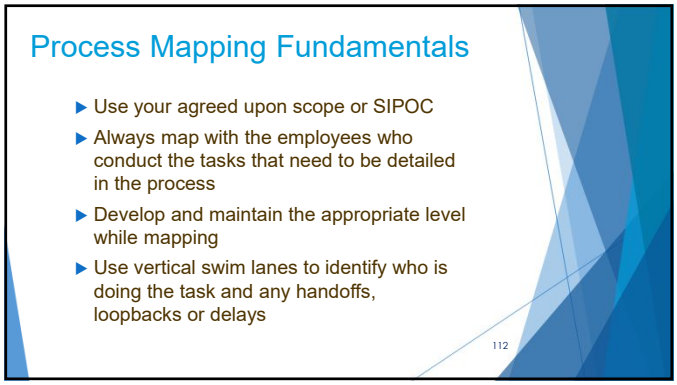
Process Mapping Fundamentals
Use your agreed upon scope or SIPOC
Always map with the employees who conduct the tasks that need to be detailed in the process
Develop and maintain the appropriate level while mapping
Use vertical swim lanes to identify who is doing the task and any handoffs, loopbacks or delays
112

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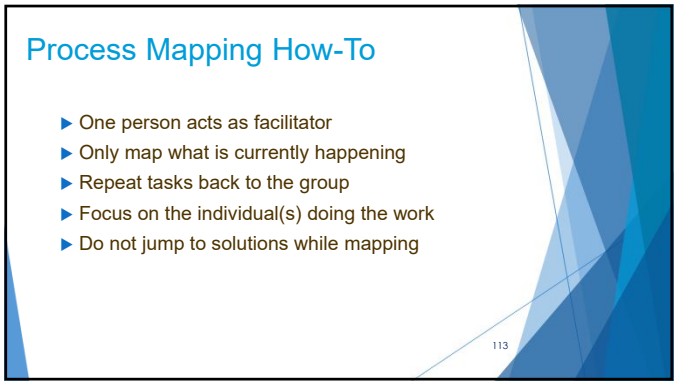
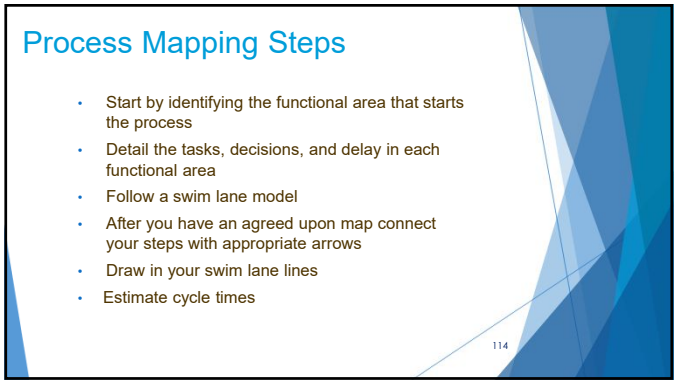

Process Mapping How-To
One person acts as facilitator
Only map what is currently happening
Repeat tasks back to the group
Focus on the individual(s) doing the work
Do not jump to solutions while mapping
113

113


Process Mapping Steps
Start by identifying the functional area that starts the process
Detail the tasks, decisions, and delay in each functional area
Follow a swim lane model
After you have an agreed upon map connect your steps with appropriate arrows
Draw in your swim lane lines
Estimate cycle times
114

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Process Mapping Guidance

- Be patient and stay engaged
- Read the group-watch for body language
- Never judge the group
- Try to stay out of the weeds
- Take breaks!
- One Voice
- Write tasks in Noun-Verb or Verb-Noun format

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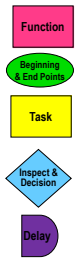
Process Map Key



Different functions of the process

Beginning and end points of the process

Any task / activity where work is performed

Places where information is checked against established criteria (standards) & decision made on what to do next

Any time information is waiting before the next process or decision (i.e. in-baskets, out-baskets, waiting to be batched)

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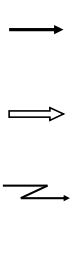
Process Map Arrows



Used between tasks performed by the same person or area, but no physical movement has occurred

Indicates physical movement of information/product from one function to another

Demonstrates electronic movement of information from one person/function to another

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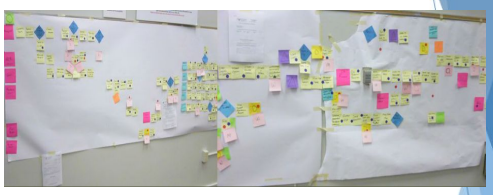
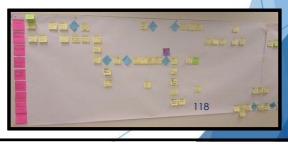
Aviation Registration Process



Current State = 129 steps, 13 decisions, 7 delays, 24 handoffs

Future State = 51 steps, 9 decisions, 18 handoffs, 0 delays

Process time reduced from 275 to 11 days



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Interpreting Your Process Map

- All process maps have common red flags
- Mapping standardization allows for easy interpreting
- The more you map, the more you see common process issues

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Red Flags

- Multiple entry points
- Time consuming complex issues clog the path for simple issues
- High Level Staff Performing Administrative Work
- Multiple Reviews, Inspections, Approvals
- Loop Backs Between Sections, Employees, Functional Areas
- Different “ways” of doing the same thing
- TIM WOOD U waste

120

120

Just-In-Time Training to Analyze Map

- Learn to identify 8 common causes of waste (Tim U Wood)
- Learn the difference between Value (2%) and Non-Valued Activities

Identify cycle time and lead time and delays

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7 Types of Waste – TIM WOOD

Transportation
Inventory or Information
Motion

Waiting
Over production
Over processing
Defects

Underutilization

122

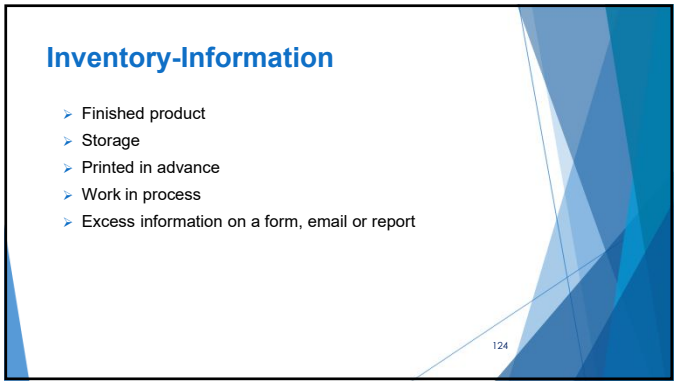
122

Transportation

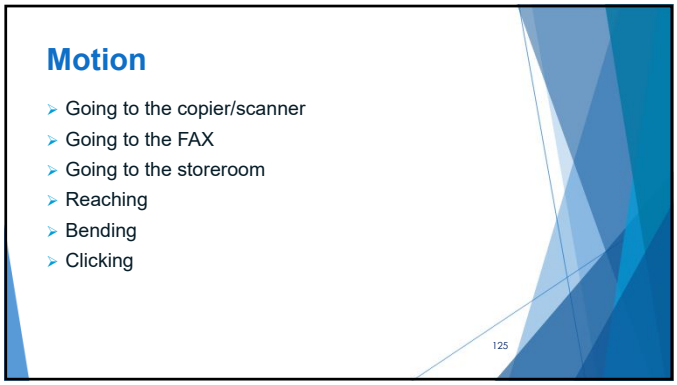
- Transport from office to office
- Transport from floor to floor
- Transport from building to building
- Trucking

123

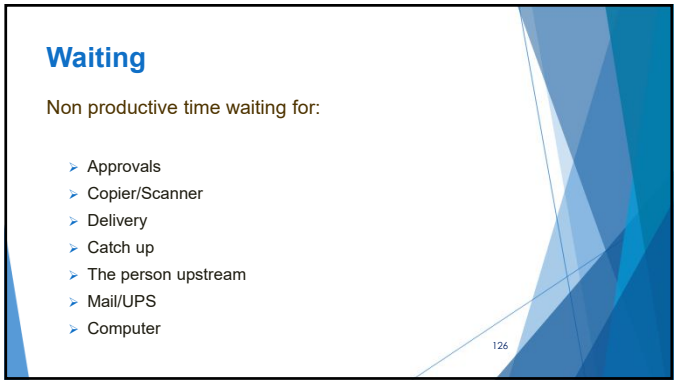
123


Inventory-Information
Finished product
Storage
Printed in advance
Work in process
Excess information on a form, email or report
124

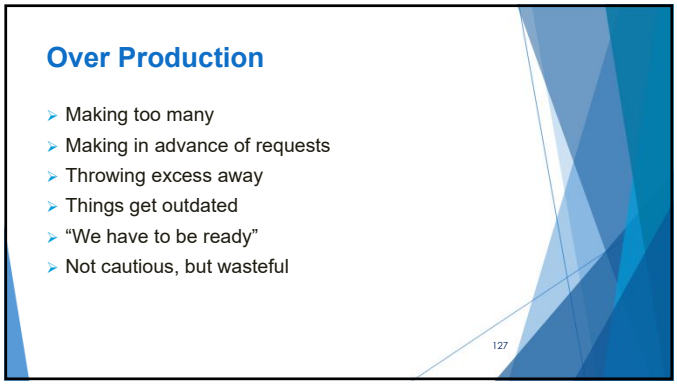
124


Motion
Going to the copier/scanner
Going to the FAX
Going to the storeroom
Reaching
Bending
Clicking
125

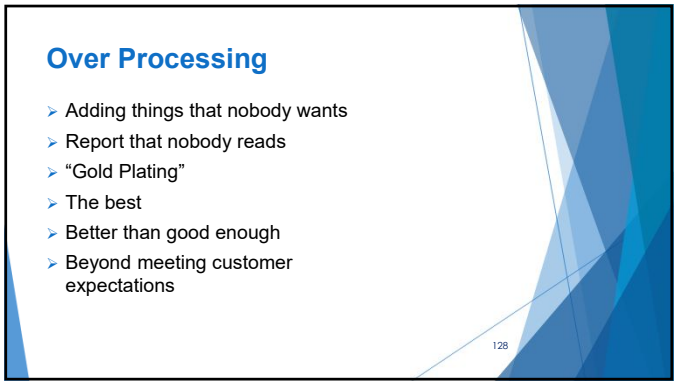
125


Waiting
Non productive time waiting for:
Approvals
Copier/Scanner
Delivery
Catch up
The person upstream
Mail/UPS
Computer
126

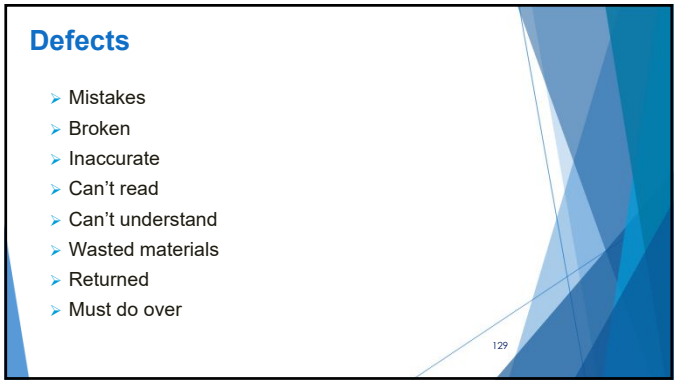
126


Over Production
Making too many
Making in advance of requests
Throwing excess away
Things get outdated
"We have to be ready"
Not cautious, but wasteful
127

127


Over Processing
Adding things that nobody wants
Report that nobody reads
"Gold Plating"
The best
Better than good enough
Beyond meeting customer expectations
128

128


Defects
Mistakes
Broken
Inaccurate
Can't read
Can't understand
Wasted materials
Returned
Must do over
129

129

Underutilization

- Employees
- Office Space
- Technology
- Equipment

130

130

Value Added

- Value Added Activities transform information into services and products the customer wants or is willing to accept
- Must Meet Three Requirements:
  - Done right the first time
  - Transformational
  - Customer would be willing to *pay* for

131

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Non Value Added but Necessary

Customer does not care, and may even be inefficient - but steps are required to be perform the step by regulation law

132

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Non Value Added

- Consumes resources
- Does not directly contribute to service
- Customer does not care

133

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Key #8: Mistake Proof your process

What is your first reaction?

134

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Reactions

- "What an idiot!"
- "Most people know enough to remove the hose before they drive off - why should we change things for one fool?"
- "Maybe this is a good way to screen drivers, as he is clearly not smart enough to be on the road"
- "There's just nothing that can be done to help some people"

OR

"What can we do to prevent that mistake from ever happening again?"

135

135

Develop a Lean Attitude

"It is my job to create a work process that is so good it eliminates delays, frustrations and prevents customer errors."

Poka-Yoke – mistake proof

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Solution – or an evolving improvement

Equip gas pumps with hose couplings that break-away and quickly shut-off the flow of gasoline.

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Poka-Yoke Opportunity

138

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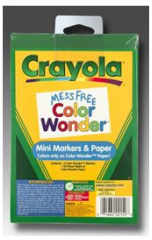
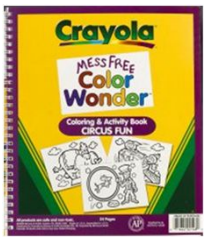
No Mess to Clean





Markers don't write except on special paper. No more ruined clothing, stained fingers or messy walls.

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No Burns to Heal

This Stove burner turns off automatically when a pot or pan is removed

140

140

Poka-Yoke Opportunity

141

141

No Items to Replace

The trash opening is smaller than the tray

142

142

No Lost Cell Phone to Find

Can't get dressed for work without finding it

143

143

Poka-Yoke (Safety)

144

144

Poka-Yoke All Forms

- Most organizations have processes that involves a form – either internal or external
- Many employees are frustrated that users of their services can't complete a simple form (What an idiot!)
- Most Lean improvement teams identify waste in the area of the process that involves forms and have implemented improvements that reduce mistakes, delays and frustration around forms.

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First Step to Mistake-Proofing Forms: DATA

- What percentage of times is the form completed with no errors?
- How many errors are made?
- How much time is spent reviewing the form and correcting errors
- Create checklist to breakdown errors by type or by question
- Create Pareto Diagram and start with big leg
- Look for Root Causes
- Test / Implement solutions

146

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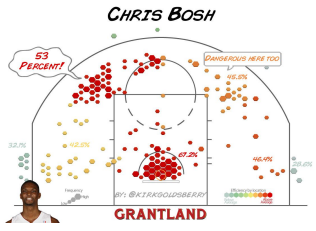
Concentration Diagram

- Concentration Diagrams are great ways to collect data for your forms
- Basketball example



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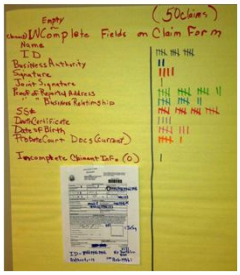

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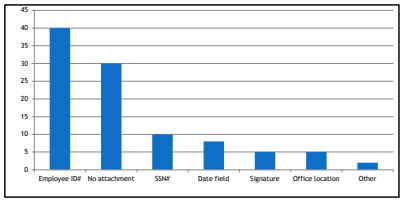
Pareto Chart



A **Pareto chart** is a bar graph with the bars sorted in order of decreasing frequency. It is used to identify the largest opportunity for improvement.

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Next Steps

- Review missed questions with employees and with customers
- Review written requests to see if you really, Really, REALLY need to ask the question
- Develop or Benchmark a good checklist for creating useable forms and ask every question before form is approved

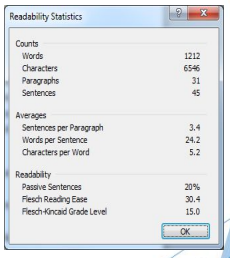
150

150

How to check the reading levels

Microsoft Word has reader level features:

Go to the Spelling and Grammar Page of the Tools/Options Menu and checking "Show Readability Statistics."



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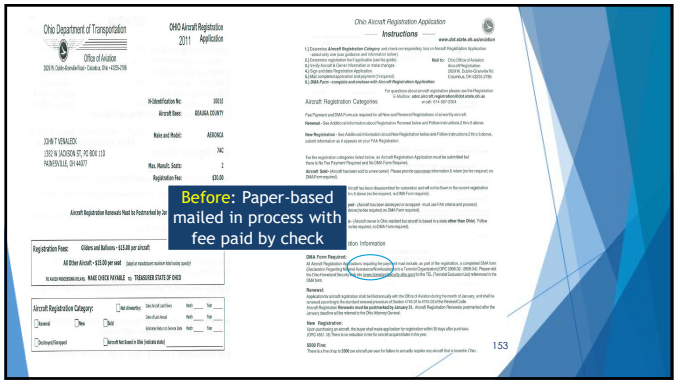
Understanding Readability Scores

- Looks at # syllables and # words per sentence.
- Flesch Reading Ease Test: the higher the score, the easier it is to understand. You want the score to be between **60 and 70.**
- Flesch-Kincaid Grade Level Test: rates text on a U.S. school grade level. For most documents, aim for a score of approximately **7.0 to 8.0.**

Use Bulleted Lists

152

152



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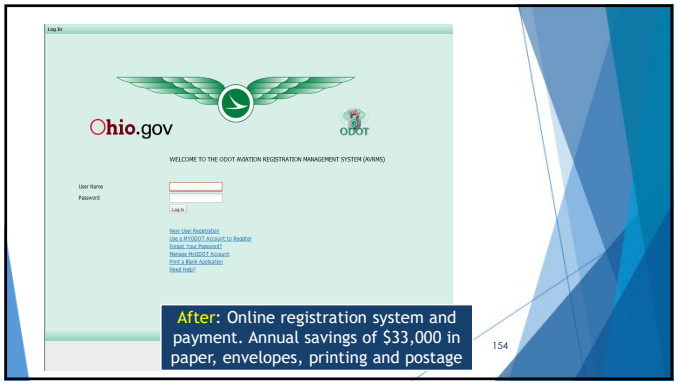

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Potential Improvements

- Remove unnecessary questions
- Explain questions that may seem unnecessary
- Eliminate unnecessary typing with pull down menus if online, or boxes to check if a paper form
- With pull down menu, ensure most common answers are first
- Highlight required fields
- Online forms can't be sent if information is left blank
- Create an FAQ or checklist to accompany the form that explains to customers exactly what is needed. (Make most frequently missed questions the first thing on the checklist)
- The most important questions are highlighted or in a prominent location

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Identify Measures

- How do you determine if your process is successful or unsuccessful?
- What data do you need to help you understand the problem?
- What measures will tell you if your improvement is successful and how can you determine the current baseline?

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Balancing Measures

Primary Measure: What you are trying to improve
Secondary Measure: To avoid sub-optimization

- Quality vs. Cost
- Errors vs. Time
- Speed vs. Cost
- Speed vs. Quality
- Customer Service vs. Time

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Key #9: Communicate Results Effectively

- *"It was a BIG improvement!"*

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Communicating Results

"We are doing <u>lots</u> better!"
OR…..

- Steps removed
- Delays eliminated
- Time saved
- Costs reduced
- Costs avoided
- Complaints reduced
- Redeployed time and people
- Employee satisfaction

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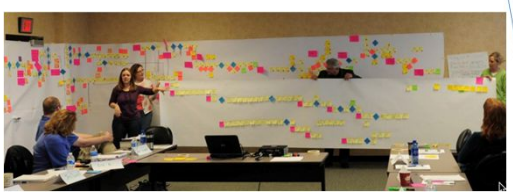
Tracking Results of New Process



Ohio Attorney General Bureau of Criminal Investigation Reduce the amount of time to identify DNA samples April 11-15, 2011	• Reduced overall process steps by 55% • Eliminated 81% of unneeded decision points • Standardized multiple processes	• Forensic biology process improved from 50 to 14 days • Annual cost savings of $57,000 • Despite a 40% increase in requests, by January 2012 time to identify DNA was reduced from 126 to 21 days	**DNA evidence is now processed significantly faster, potentially improving conviction accuracy**

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Sample of Results – telling the story

Issue: The process for enrolling Ohio Highway Patrol applicants into the training academy was too slow and inefficient, causing top recruits to take other jobs, and the academy to operate at diminished capacity.

Department	Changes to Process:	Metrics:	As A Result:
Public Safety Ohio State Patrol Decrease time to qualify for admission to academy. **June 4-8, 2012**	• Reduced process step from 235 to 34, a 74% improvement. Reduced handoffs from 76 to 11, an 86% improvement. • Modified testing process and eliminated redundancies.	• Lead time reduced from a range of 191* days to more than a year, down to 61 days. • Expected increase in applicant to trooper graduate success, from 3% to 100% rate. • On average, recruits will have $1000 less in out-of-pocket expenses.	• **Fewer "top prospects" for state trooper jobs will be lost** to other jobs, and the **training academy will operate at full capacity** instead of losing large numbers of unprepared or unqualified candidates. • Last two academies classes ion 2012 ran at full capacity

*"Before" lead time (191 days) was the speed of the old process if everything went smoothly. It could actually take several years for an applicant to be admitted to the academy after submitting an application. It should now routinely take approximately 60 days.

Major Improvement	HOW it was accomplished
Reduced significant costs and delays in the process	Eliminated the existing psychology test and replaced the LESI with a validated, version that is simpler, faster, and less costly.
Reduced the redundancy of steps in the process	Example: Took two medical tests and reduced it to one, combined 3 physical training tests into one.
Reduced the number of no shows	Created a front-loaded prescreening process to ensure more pre-qualified applicants are available.

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Honda Lean Consortium

BWC Injured Worker's Assessment Team Tangible Results:

Changes to Process	Metrics	As A Result
Reduced steps in process from 87 - 43 (50%)	63,000 hours of staff time saved	Injured Workers will return to work an average of 4 days sooner
Loopbacks 6 - 1	Application lead time 42% - 91% faster	Projected savings of $6.7 million
Decision Points from 9 - 3		

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Less Tangible Results

- *"I was willing to try but didn't think much could be done because of all the laws and rules and policies"*
- *"I thought we might be the first team with no improvements implemented"*

TO

- "It changed my life"
- "I look at everything differently"
- "We use lean tools everywhere now"
- "Nothing will be good enough"

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Questions to Answer

- How often do you want the data?
  - Monthly, weekly, daily (monthly but daily increments)
- What will the data be used for?
  - Performance measurement or causes of process deficiencies
- Do we analyze all relevant data or a sample?
- What tools are necessary?
  - Scale, ruler, yard stick, stopwatch, phone systems
- What logistical issues are relevant?
  - Who will collect the data, shift, region
- What format should the data be displayed in?
  - Excel, collection form, report, logs

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IT Requirements

"I want some lunch" 165

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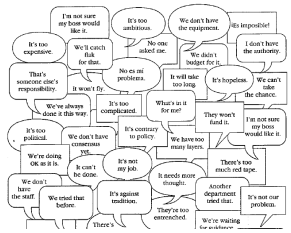
Key #10: Create **Buy-In** to overcome resistance to change, and **monitor progress visually** to ensure good ideas get implemented



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Change Management

- The ability to reach a consensus despite everyone having their own perspective

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Reaching Consensus?

How do we define consensus?

- ✓ I had a chance to be heard
- ✓ I had a chance to hear everyone else
- ✓ I believe we used a fair process to make decisions
- ✓ Because of all this, even if the result is not my first choice, I can support the team

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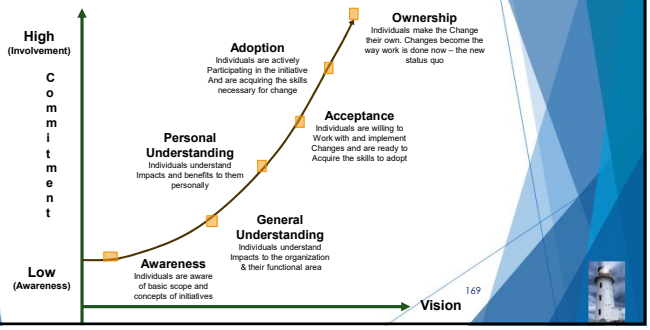
Building Commitment To Change



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Implementation Plans

- Only 8% of Americans are successful in achieving New Years Resolutions
- 25% don't make it past the first week
- People who write down their specific resolutions are 10x more likely to attain their goals

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Implementation Plans

- Clear Objectives
- Specific steps that must be accomplished and who is responsible and accountable
- Time frame for each task that are aggressive but reasonable
- Specific plan to monitor progress

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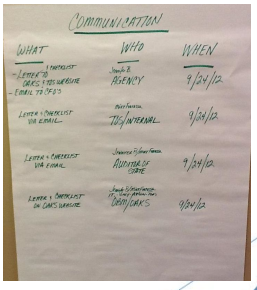
Sample Action Register

- Training
- Communications
- Policy/Procedures
- Information Technology
- Forms/Checklists
- Etc.



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Sample Training Plan

What	Who	When
Create training course outline	Adam	11/8/2020
Complete "draft" instructor and participant manual	Blake	11/25/2020
Finalize manual and additional training materials	Blake	12/6/2020
Print training materials and upload to website	Jillian	12/13/2020
Train HR and Facilities	Adam	1/10/2020
Train Planning and Finance	Adam	1/17/2020
Conduct "makeup" training sessions	Raymond	1/24/2020
Review feedback and schedule future training sessions	Jillian	2/7/2020

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Implement as much immediately as possible, but..

- Some complex issues must be phased in
- Implementation plan may include two or more phases in which plan resource demands are spread over time
- Immediate, Intermediate, and Future Plan
- Some issues can be piloted for the first 3-6-9 months to a year

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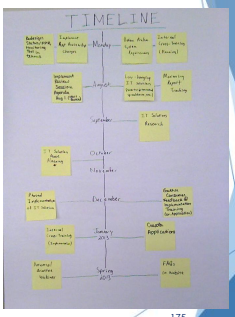
Timeline Tree

- High level
- Central axis (schedule)
- Activities on post-it notes with dates of implementation



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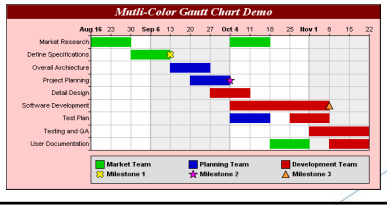
Gantt Chart

- Clear illustration of project status – what has to be done (activities) and when (schedule)
  - Left of the chart is a list of all activities/tasks
  - Top of chart represents a suitable timescale (days, weeks or months)



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Visual Management

- Seeing results
- Allows for early detection/correction
- Keeps focus
- Gives direction
- Rewards success
- Tracking/monitoring
- Pacing

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A Dashboard is….

- A concise visual indicator that displays: clear, measureable and valid metrics for each objective, targets for each metric, and the status of each metric
- We use charts to tell stories, evaluate alternatives, understand trends or find-out if everything is normal

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Dashboard

- Example -The car dashboard shows indicators that give the current measurable status of engine speed, engine temperature, oil temperature, fuel levels and vehicle speed

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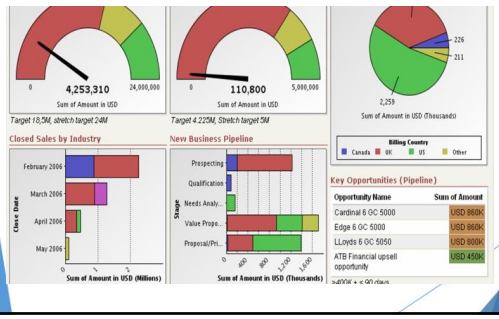
Dashboard Examples



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Visual Management

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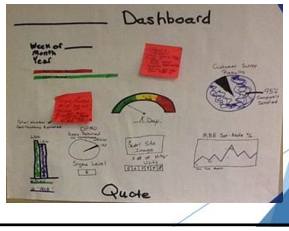

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General George Stedman

"Men, I want you to fight vigorously and then run.

And as I am a little bit lame, I'm going to start running now."

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