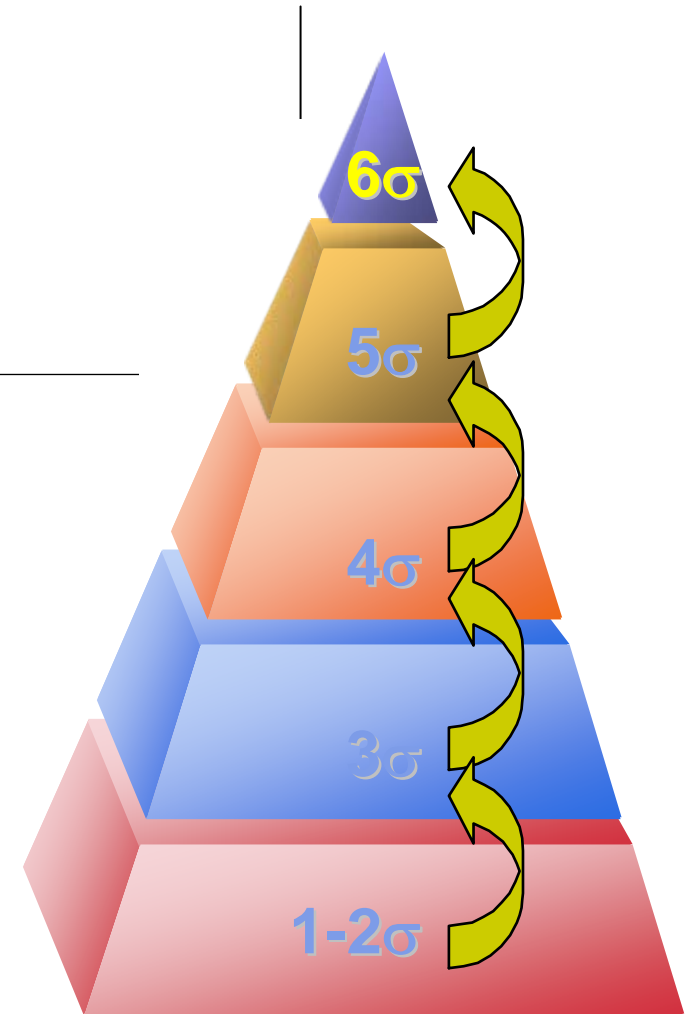
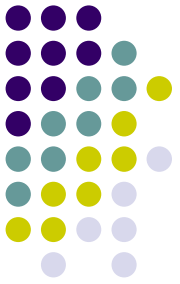
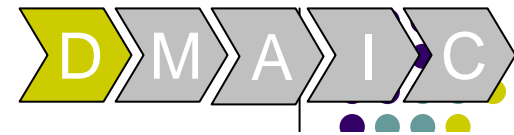

**Project: Financial Services
Improvement in City Government
Presentation**





Define Phase

Project Review Process Design



Project Name: Financial Services Improvement

Problem Statement: The Finance Director identified the need to streamline the financial processes. The Finance Clerk complained of needing additional staff and not being able to complete her work. The vendor payments were frequently late, resulting in vendors constantly calling the Finance Department requesting payment. The revenue receipts were frequently held in the finance department for over a week before processing and depositing. The estimated current payroll processing time ranged from thirteen to seventy hours, with a mean time of 40 hours. Employees frequently complained about payroll paycheck errors. The monthly reconciliations were not performed on a regular basis. Adjustment journal entries were frequently made months after the error should have been discovered.

Customer/Stakeholders: Financial Departments, City departments, external vendors, governmental agencies (tax reporting, county and state, pension)

What is important to these customers – CTS (Critical to Satisfaction): Accuracy, timeliness.

Goal of the Project: To streamline financial processes, reduce cycle time, improve quality and accuracy.

Scope Statement: The financial processes include payroll, purchasing and accounts payable, accounts receivable, monthly reconciliation, and budgeting.

Financial and other benefit (s): Cost avoidance, not having to hire additional resources, and all work being done by 1 person, instead of 1 ½ FTEs. \$66,000.

Potential Risks: Stakeholder buy-in; consulting resources not approved by City Manager

Stakeholder Analysis

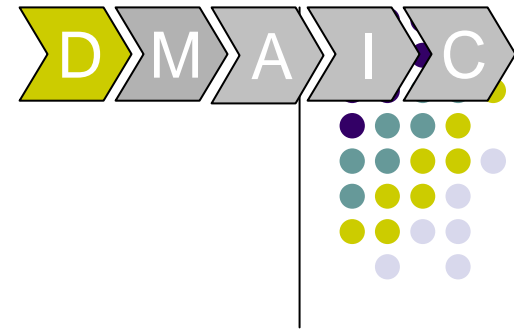


Stakeholders	Who Are They?	Potential Impact or Concerns	+ / -
Finance Clerk	City employee who performs the detailed financial processes including processing payroll, accounts payable and accounts receivable.	<ul style="list-style-type: none"> Standardized processes Fewer errors Reduction of time and work Resistance to change 	+ + + -
Finance Director	Manager of the Finance and Administration Departments, including Finance, Mayor's Court, Utility Billing and Income Tax.	<ul style="list-style-type: none"> Ensure accounting and finance standards and procedures are followed Citizen and council satisfaction Avoid hiring additional staff 	+ + + -
Quality Facilitator and Process Analyst	Provides Black Belt expertise, identifies improvement recommendations, documents process, collects data, performs statistical analyses.	<ul style="list-style-type: none"> Reduce resistance to change with Finance Clerk Complete project on time and within budget Add value and improve processes 	- + +
Consulting Manager	Manages client relationship for consulting company.	<ul style="list-style-type: none"> Client satisfaction Complete project on-time and within budget 	+ +

A diagram of the DMAIC process. It consists of five chevron-shaped boxes labeled D, M, A, I, and C from left to right. The 'D' box is yellow, while the others are grey. A vertical line separates the 'I' box from the 'C' box. To the right of the 'C' box is a 4x5 grid of colored dots (purple, teal, yellow, and light blue) arranged in a pattern that suggests a data visualization or a final output.

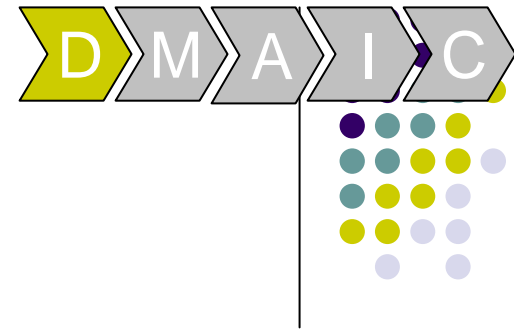
5

SIPOC



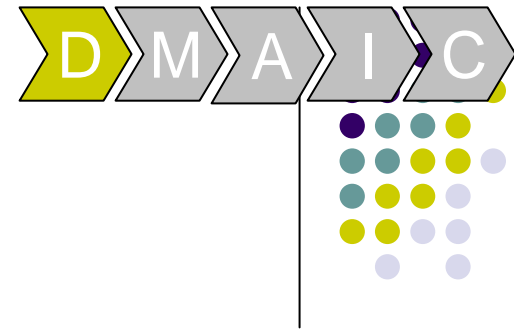
Suppliers	Inputs	Process	Output	Customers
City employees	Time reports	Payroll	Checks, Pension reports, taxes paid	City Employees, taxing authorities, State, County
Vendors, City employees	Invoices, requests	Accounts Payable	POs, Checks	Vendors
State, County	Checks, direct deposits	Accounts Receivable	Funds available or invested	City departments
City departments	Financial transactions, receipts, checks, invoices, bank statements	Monthly Reconciliation	Balanced accounts, adjustments, financial reports	Finance Director, Council
City Departments	Budgeting Needs	Budgeting	Budget, Appropriations	Council and Citizens

Project Plan

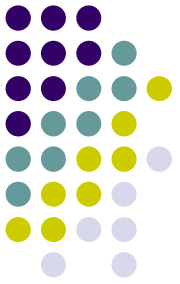


Activity Number	Phase/Activity	Duration	Predecessor	Resources
1.0	Define	5 days		Quality Facilitator, Finance Director, Consulting Manager
2.0	Measure	24 days	1.0	Quality Facilitator, Process Analyst, Finance Clerk
3.0	Analyze	15 days	2.0	Quality Facilitator, Process Analyst, Finance Clerk
4.0	Improve	35 days	3.0	Finance Clerk, Quality Facilitator
5.0	Control	5.5 days	4.0	Team

Team Members

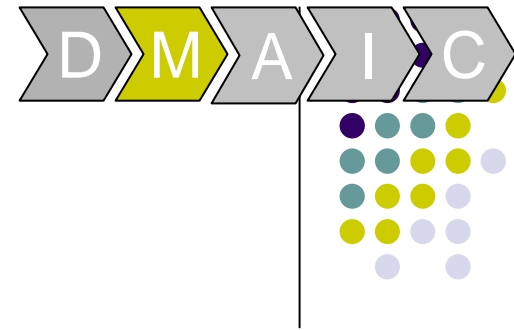


Team Mission	
Document the current financial processes to create desk-top procedures and to identify and implement financial process improvements.	
Role	Responsibility
Finance Clerk as Process Owner	Provides process knowledge and identifies and implements improvement opportunities
Finance Director as Project Champion	Establishes team mission and goals. Provides project team resources and support.
Team Quality Facilitator as Black Belt	Provides team facilitation. Provides technical Quality and Lean tool knowledge. Provides best practice for financial processes.
Process Analyst	Prepares documentation. Collects process data. Identifies improvement opportunities.
Consulting Manager	Provides business knowledge and direction. Manages consultants.



Measure Phase

Process Estimates



Process	Estimated Elapsed Processing Time Range	Estimated Average Elapsed Processing Time
Payroll and Pension Reporting	13 to 70 hours	60 hours
Purchasing/Accounts Payable	30 to 40 hours per batch (only about half of the due invoices are processed every other week).	40 hours
Accounts Receivable	40 to 80 hours (including delay due to workload capacity issues)	60 hours
Monthly Reconciliation	40 to 80 hours (if performed)	60 hours
Budgeting	No estimate available	No estimate available

Data Collection Plan

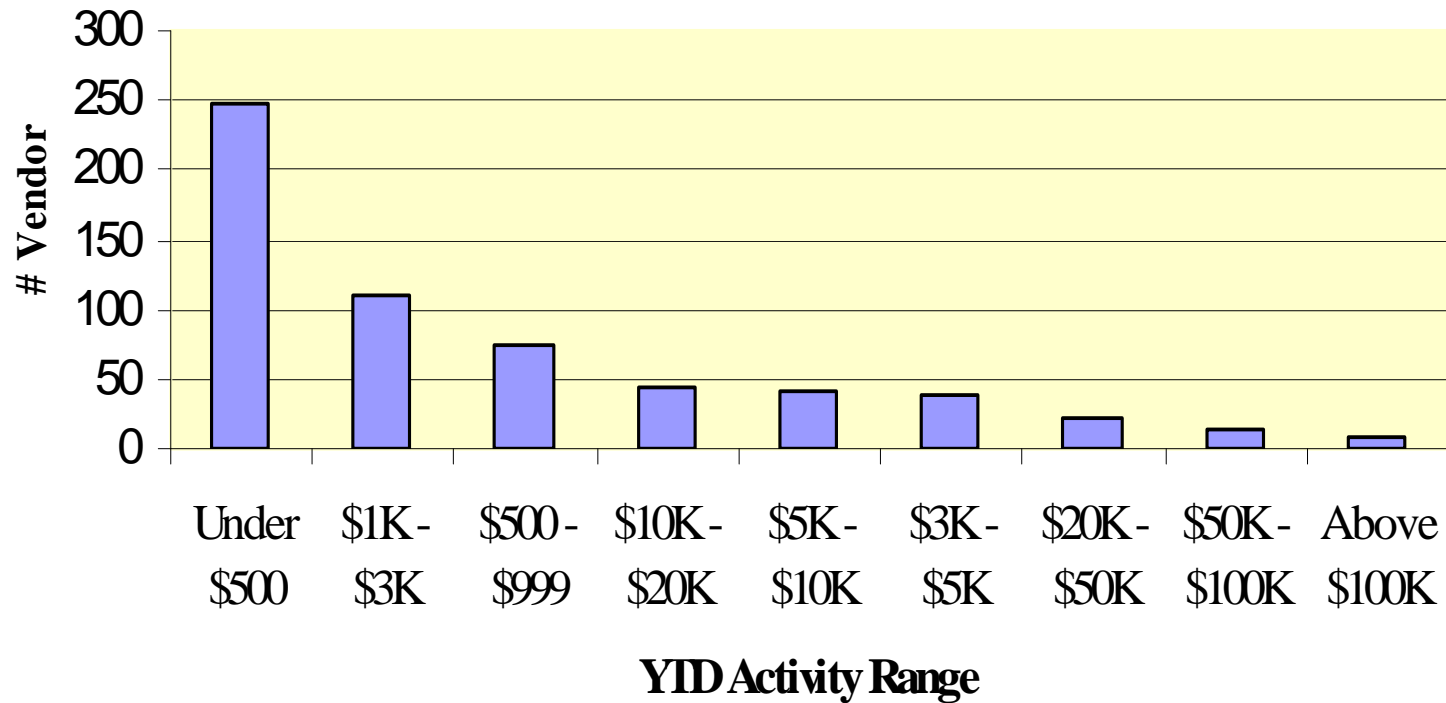


Critical to Satisfaction (CTS)	Metric	Data collection mechanism (survey, interview, focus group, etc.)	Analysis mechanism (statistics, statistical tests, etc.)	Sampling plan (sample size, sample frequency)	Sampling instructions (who, where, when, how)
Cycle Time	AP: cycle time – vendor invoice received to paid	Track for 4 weeks	Mean, standard deviation, control charts	All invoices for one month	Process analyst tracks date received to when paid
	AR: time to deposit funds in bank from when check received	Track for 4 weeks	Mean, standard deviation, control charts	All revenue receipts for one month	Process analyst tracks date received to when paid
	Recon: time takes to close	Track for 2 months	Mean, range	Time to close for 2 months	Process analyst tracks time to close
	Payroll: time to process payroll	Track for 2 payroll cycles	Mean, range	Time for 2 payroll cycles	Process analyst tracks time to close
Accuracy of the process	AP: types and number of defects	Check sheet	Pareto chart	Defects for 1 month	Finance clerk to track on check sheet
	AR: types and number of defects	Check sheet	Pareto chart	Defects for 1 month	Finance clerk to track on check sheet
	Recon: types and number of defects	Check sheet	Pareto chart	Defects for 1 month	Finance clerk to track on check sheet
	Payroll: type and number of defects	Check sheet	Pareto chart	Defects for 1 month	Finance clerk to track on check sheet
Customer Satisfaction	Vendors	Survey	Statistical analysis	Survey 20 vendors	Quality facilitator to create survey and collect survey data
	Internal customers	Survey	Statistical analysis	Survey internal city departments: police, fire, streets, admin	Quality facilitator to create survey and collect survey data

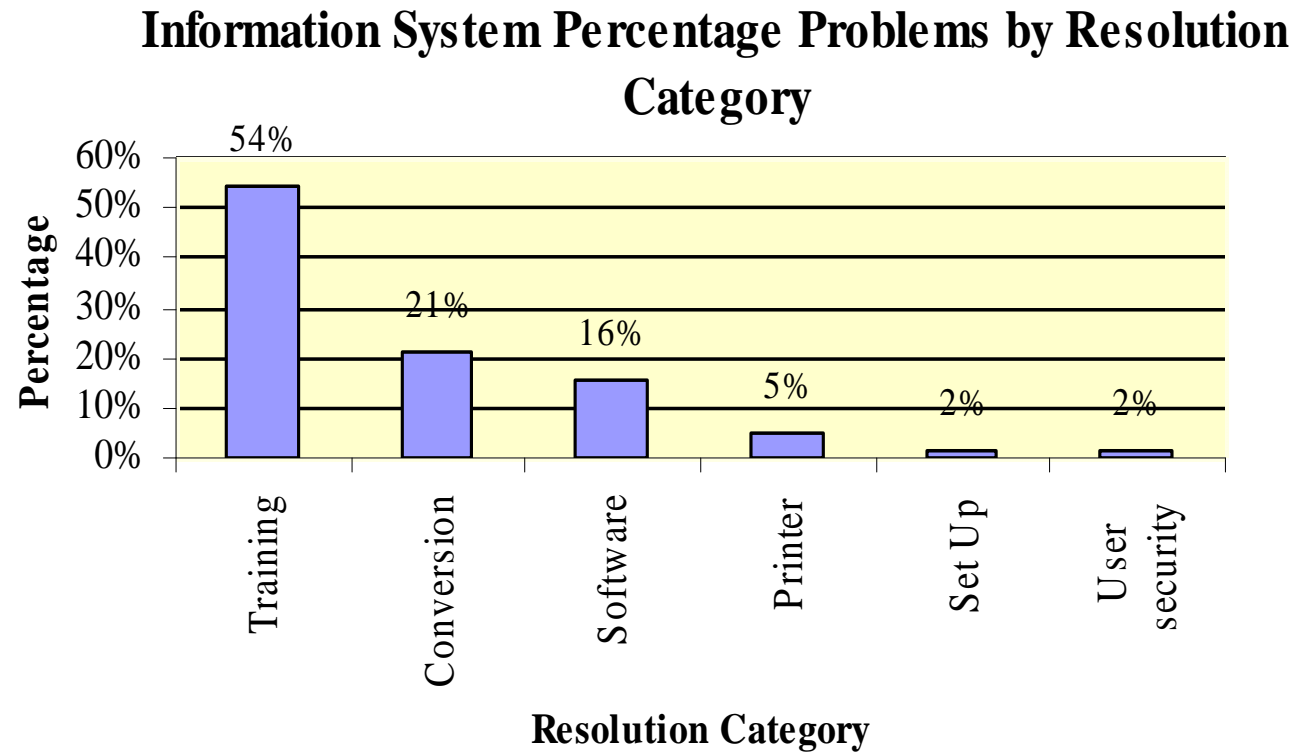
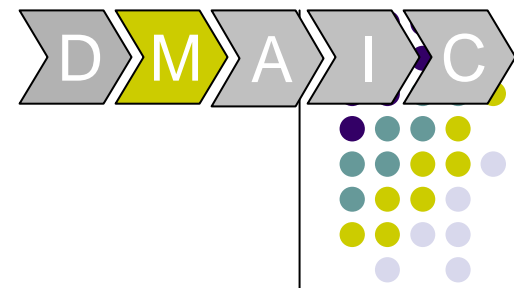
Accounts Payable Data



Number Vendors by YTD Vendor Activity



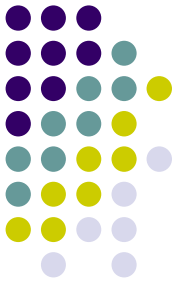
Information Systems Problems



VOP Matrix



CTS	Process Factors	Operational Definition	Metric	Target
Cycle Time	<ul style="list-style-type: none"> Standard Procedures Exist Streamlined processes Training Volume of invoices and paychecks 	Measure each process time	AP: cycle time – vendor invoice received to paid AR: time to deposit funds in bank Recon: time takes to close Payroll: Paid on time per schedule	AP: 10 business days AR: 2 days Recon: 10 days Payroll: Paid on time
Accuracy of the Process	<ul style="list-style-type: none"> Training in Procedures and software. 	Measure each process and defect types	Defects by process and type	95% accuracy
Customer Satisfaction	<ul style="list-style-type: none"> Repeatable process Collect and assess VOC 	Measure customer satisfaction through customer and vendor surveys.	% of positive responses for identified survey questions	80% of responses are rated 4 or 5 for identified questions

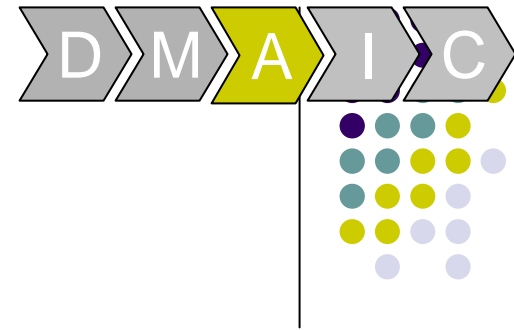


Analyze Phase

A diagram of the DMAIC process. The letters D, M, A, I, and C are each inside a chevron pointing to the right. The 'A' chevron is highlighted in yellow, while the others are grey. Below the chevrons is a 5x5 grid of colored dots. A vertical line separates the 'A' chevron from the first two columns of dots. The dots are colored purple, teal, yellow, and light blue.

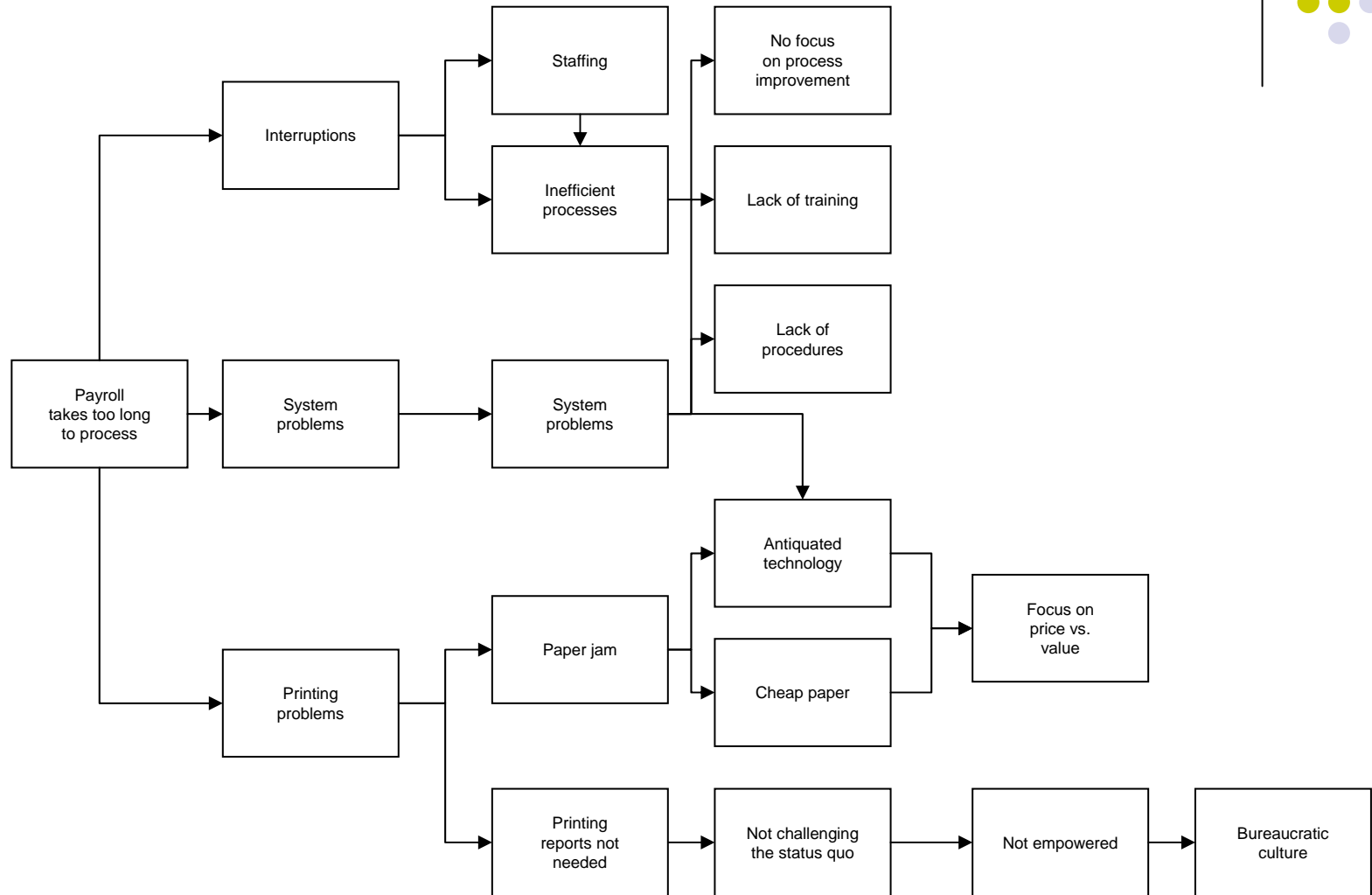
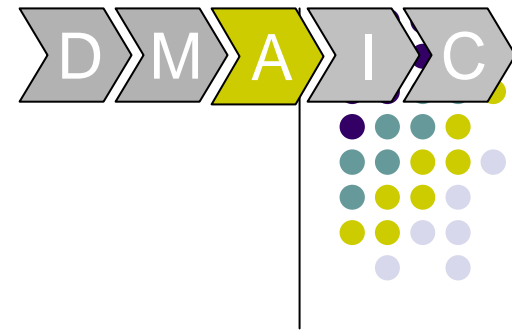


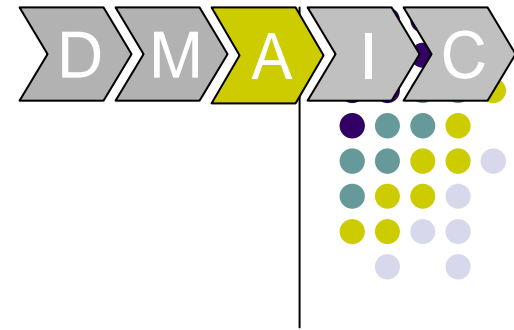
Causes



	Effects					
	AP Defects	AR Defects	Payroll Defects	Recon Defects	Total	Relative Weighting
Causes/ Importance:	8	4	10	6		
Lack of Training	9	9	9	3	216	2
Lack of standard procedures	3	3	3	9	120	4
Antiquated technology	3	3	9	9	180	3
Lack of functionality		9	3	3	84	5
Bureaucratic culture	9	9	9	9	252	1

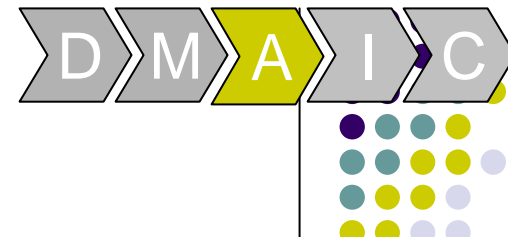
Why-Why Diagram





Value Analysis

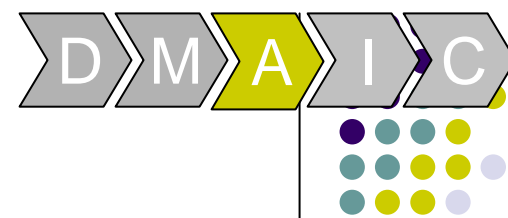
Process	Value Added Percentage of Activities	Non-Value Added Percentage of Activities
Accounts Payable	39%	61%
Accounts Receivable	14%	86%
Monthly Reconciliation	7%	93%
Payroll	17%	83%



Value Analysis: AP, AR

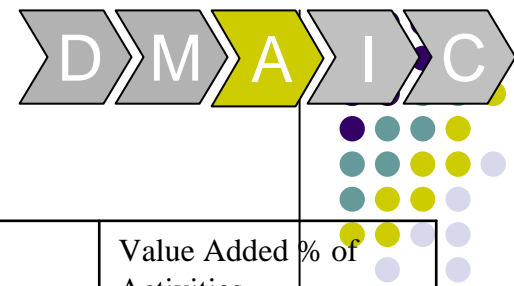
Process	Value Added Activities	Non-Value Added Activities	Value Added % of Activities
Accounts Payable	<ul style="list-style-type: none"> ▪Perform bidding process ▪Council approves ▪Enter new vendor ▪Enter PO in FSS ▪Approve PO ▪Fire Dept. calls with amount ▪Treasurer gives amount needed ▪Fill out req form ▪Pay PO 	<ul style="list-style-type: none"> ▪Obtain PO number ▪Fill out req form ▪Print PO ▪Verify premium invoice number ▪Verify PO exists ▪Store PO ▪Send invoice to supervisor ▪Total invoices on calculator ▪Print report ▪Verify total ▪Fix problems ▪Print checks ▪Send checks ▪File copy 	39%
Accounts Receivable	<ul style="list-style-type: none"> ▪Post receipt in system ▪Deposit at bank 	<ul style="list-style-type: none"> ▪Make copy of check ▪Total on calculator ▪Staple deposit slip and copy ▪Print report ▪Verify total ▪Match report to receipts ▪Fix problems ▪File receipts ▪Stamp back of checks ▪Fill out deposit slip ▪Staple to report ▪Store 	14%

Value Analysis: Reconciliation

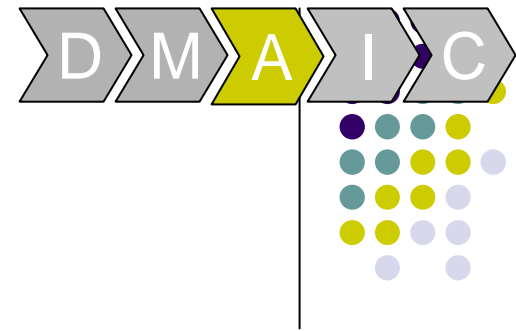


Process	Value Added Activities	Non-Value Added Activities	Value Added % of Activities
Monthly Reconciliation	<ul style="list-style-type: none">▪Reset month in system	<ul style="list-style-type: none">▪Print reports▪Compare report totals to bank statements▪Call Help Desk for help▪Fix problem▪Reconcile bank statements▪List outstanding checks▪Compare totals▪Verify items▪Review check register▪Review wire transfers▪Make adjustments▪Bank make adjustments▪File bank statements▪File reports	7%

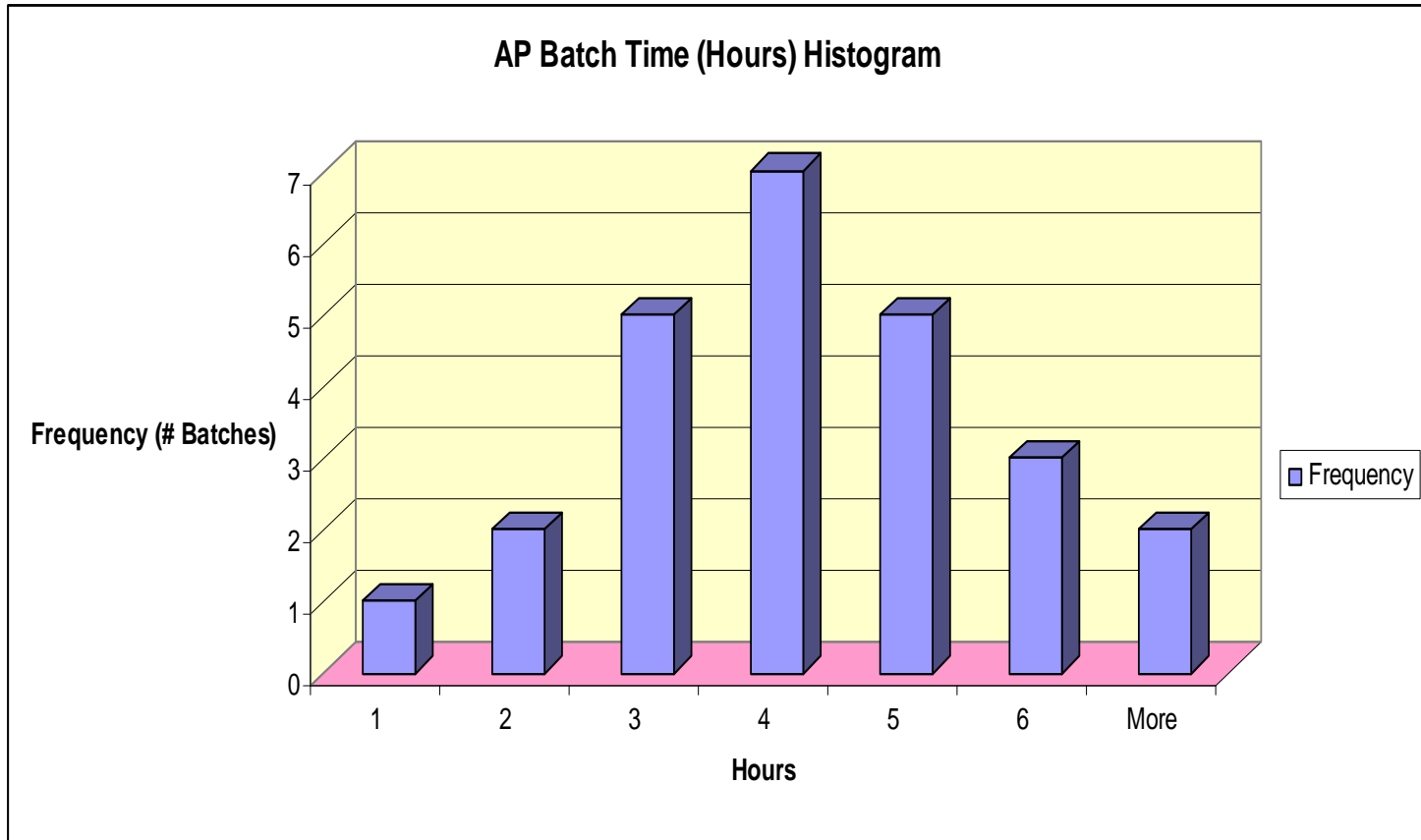
Value Analysis: Payroll

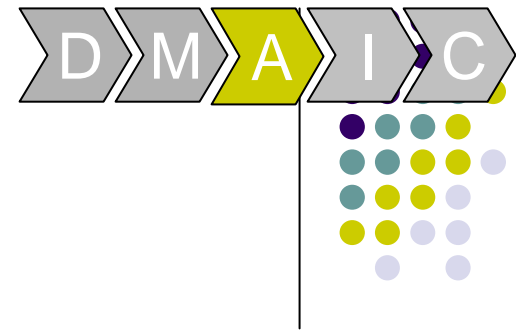


Process	Value Added Activities	Non-Value Added Activities	Value Added % of Activities
Payroll	<ul style="list-style-type: none"> ▪Enter time sheets in system ▪Print checks ▪Print deduction checks ▪Print direct deposit vouchers ▪Perform direct deposit transfer 	<ul style="list-style-type: none"> ▪Verify time sheets ▪Create manual hours sheet ▪Print reports ▪Compare hours totals ▪Fix hours in system ▪Print reports ▪Compare totals ▪Fix hours ▪Print payroll reports ▪Fix printer problems ▪Redo payroll in system ▪Void printed checks ▪Re print checks ▪Change printer paper ▪Print successful bank report and send to bank ▪Fix direct deposit problems ▪Fix paycheck problems ▪Write manual check ▪Bank fixes problem ▪Fix problem in direct deposit ▪Bank calls with problem ▪Write check for General Fund ▪Deposit in bank ▪File copies of report 	17%

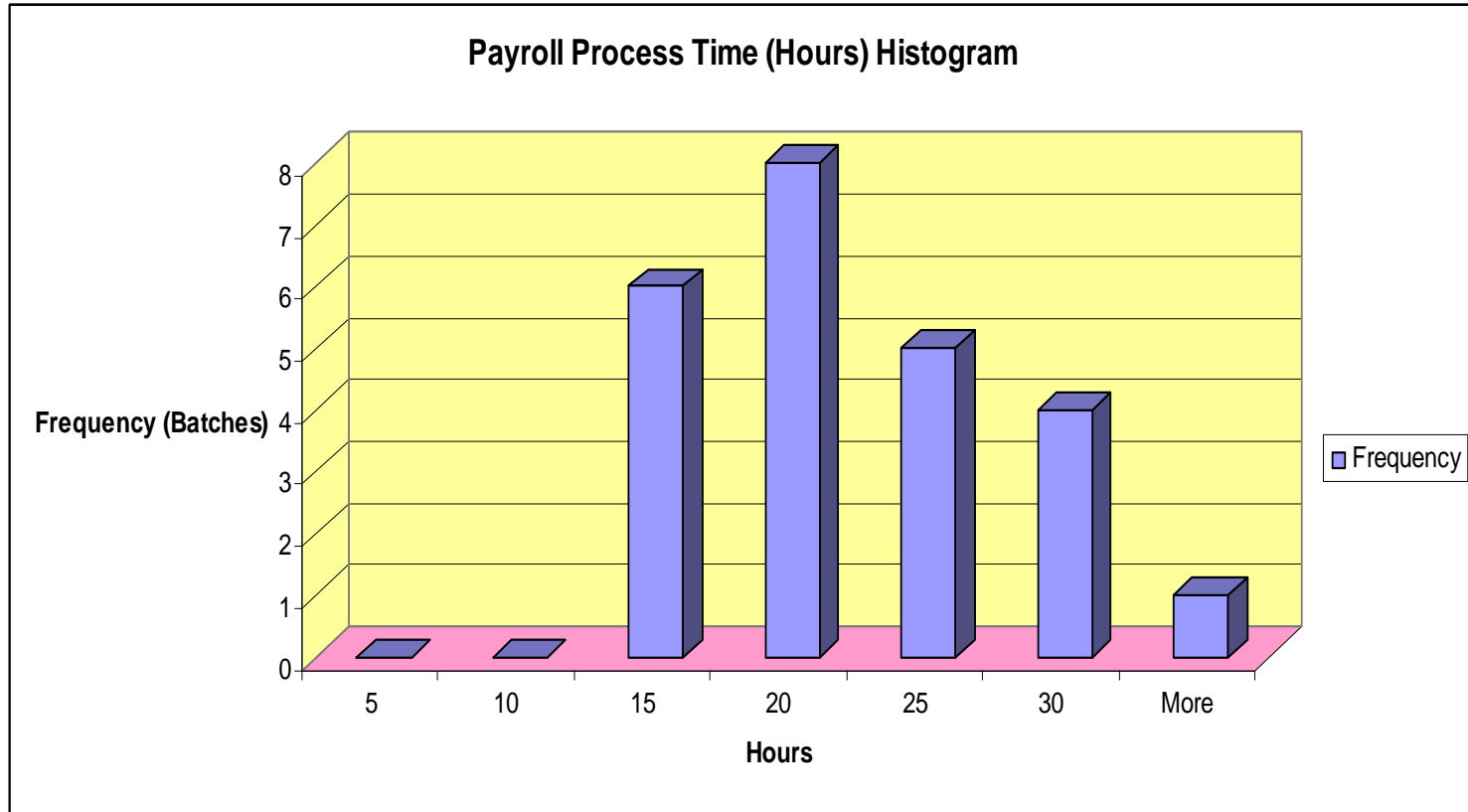


AP Batch Time Histogram

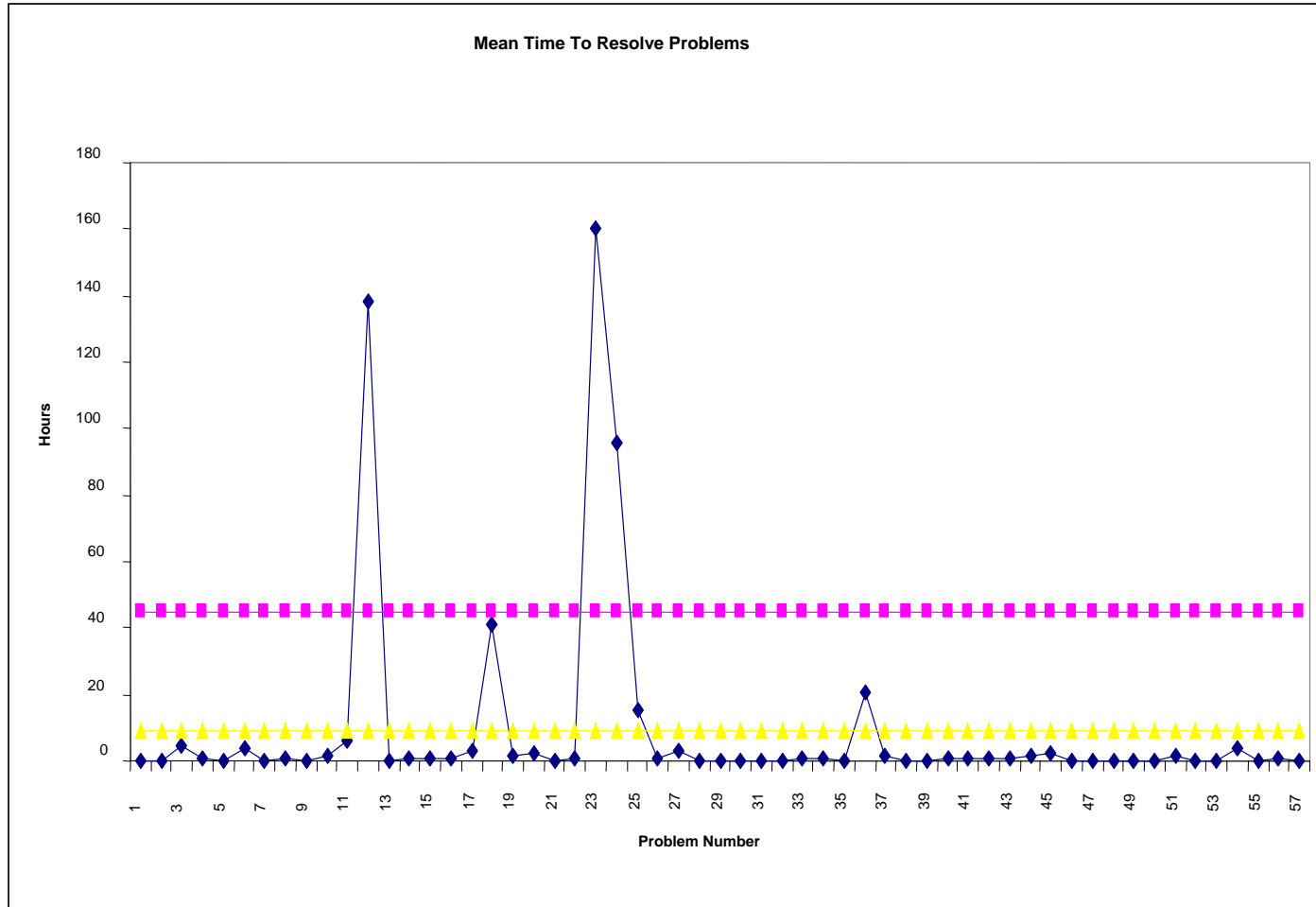
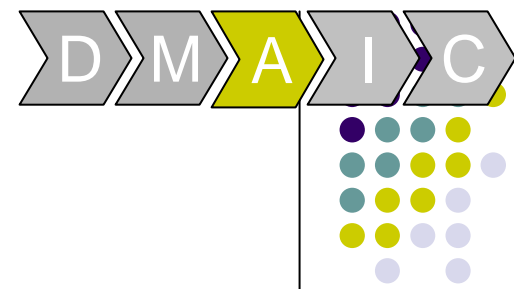




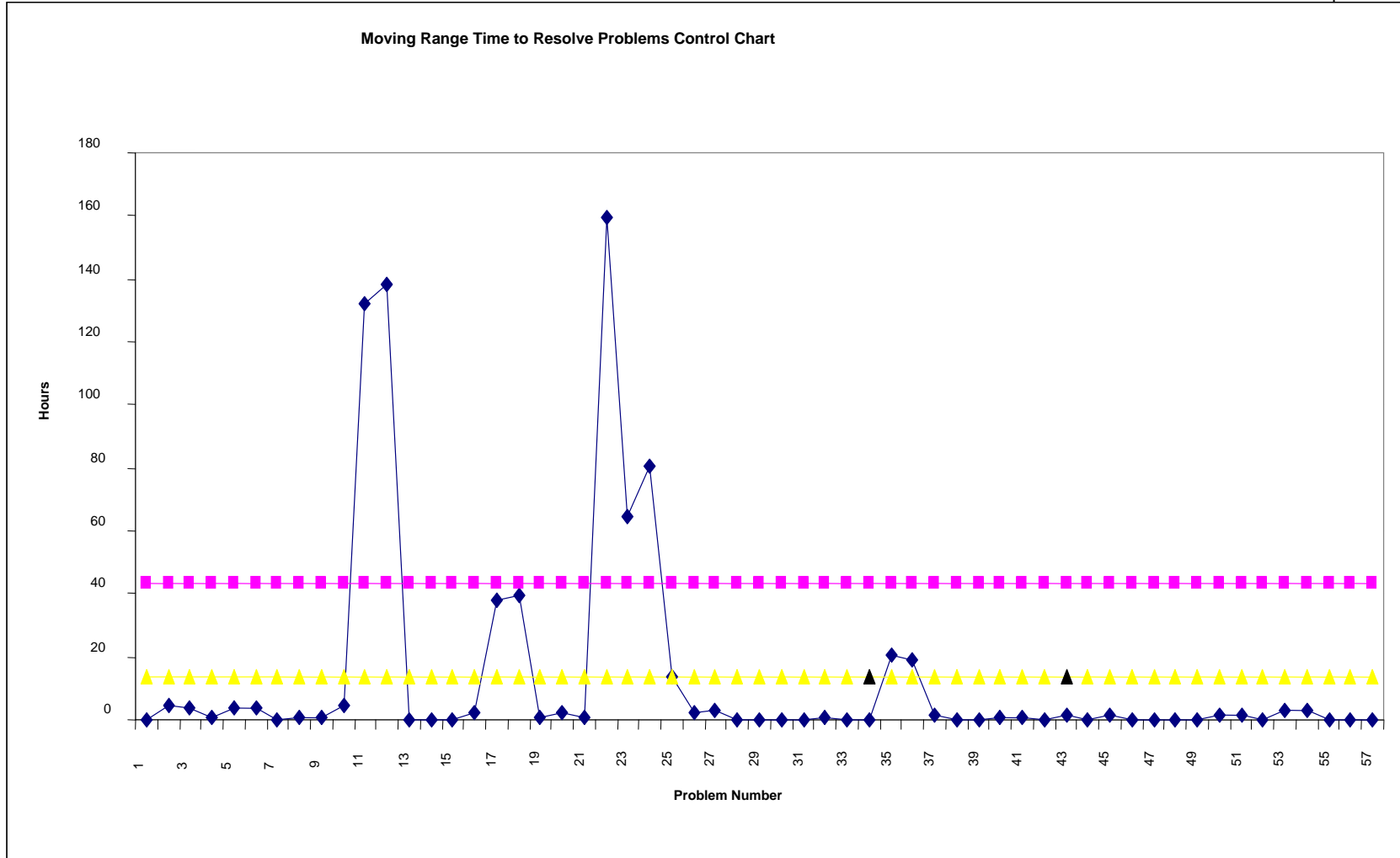
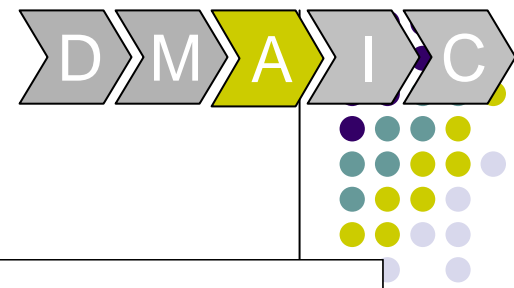
Payroll Process Time Histogram

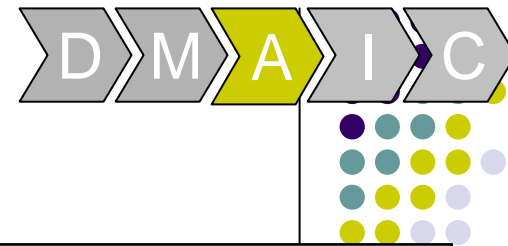


IS Problems Mean Time to Resolve



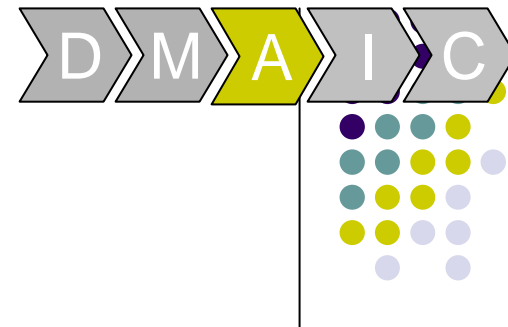
IS Problems Moving Range Time





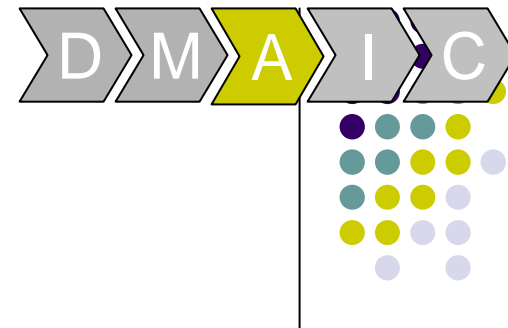
Waste Analysis

Waste Type	Process	Waste Element
Transportation	AP, AR, Payroll	Moving manual checks, moving funds manually, not using direct deposit so moving paychecks
Over-Production	AP, AR, Payroll, Monthly Reconciliation	Printing reports that are not used
Motion	AP, Payroll	Walking to printer in other room
Defects	AP, AR, Payroll, Monthly Reconciliation	Matching totals, process defects (wire transfers, direct deposit errors, information system process errors, printer problems), paycheck errors, timesheet errors
Delay	AP, AR, Payroll, Monthly Reconciliation	Waiting for AP processing, waiting to deposit AR checks, not getting to Monthly Reconciliation process, paying outside accountant to balance books, payroll late
Inventory	AP, AR, Payroll, Monthly Reconciliation	Filing/storing reports, Purchase requisitions, purchase orders, invoices, time sheets
Processing	AP, AR, Payroll, Monthly Reconciliation	Matching and balancing, not using direct deposit (printing checks), not moving funds automatically at bank
People	AP, AR, Payroll, Monthly Reconciliation	No focus on process improvement, not using people's ideas



Confidence Intervals

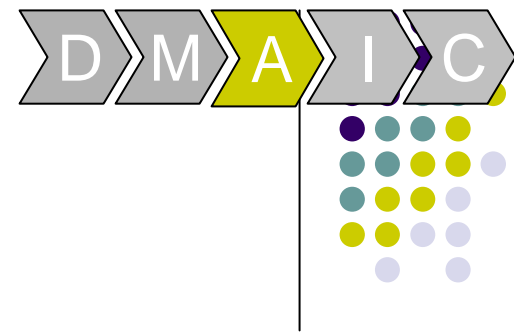
Process	Lower Confidence Interval of the Mean	Upper Confidence Interval of the Mean	Mean	Standard Deviation	Sample Size
Payroll	17.99	22.51	20.3	5.7	24
AR	60.45	87.55	74	33.9	24
AP	3.33	4.59	4.0	1.6	24
Monthly Reconciliation	46.91	64.84	55.9	22.4	24



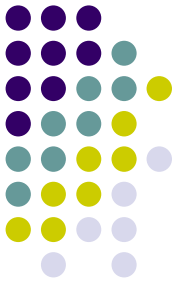
Vendor Survey Results

Survey Question	% Negative (1, 2)	% Positive (3, 4, 5)
1) I receive payment for my invoices in a timely manner.	80%	20%
2) I receive accurate payments for my invoices.	15%	85%
3) If I call or see the City for customer service related to my invoice, I receive prompt service.	10%	90%
4) If I call or see the City for customer service related to my invoice, I receive friendly service.	80%	20%
5) If I call or see the City for customer service related to my invoice, my problem gets solved completely the first time.	55%	45%

Internal Customer Survey Results

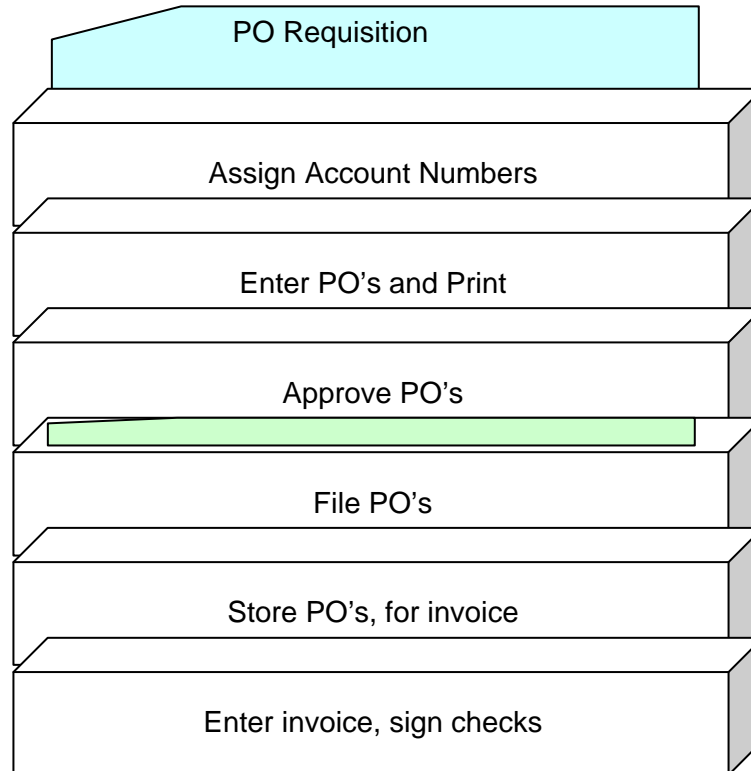
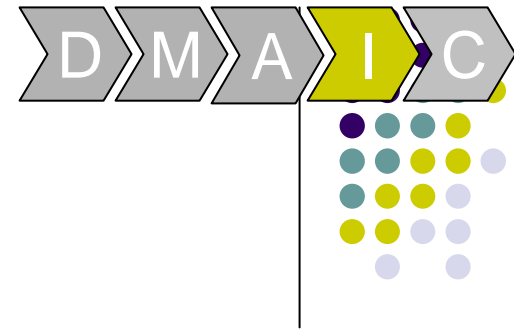


Survey Question	% Negative (1, 2)	% Positive (3, 4, 5)
1) I receive my paycheck in a timely manner.	7%	93%
2) I receive an accurate paycheck.	13%	87%
3) If I call or see the Finance Department for service related to payroll, I receive prompt service.	5%	95%
4) If I call or see the Finance Department for service related to payroll, I receive friendly service.	88%	12%
5) If I call or see the Finance Department for service related to payroll, my problem gets solved completely the first time.	53%	47%

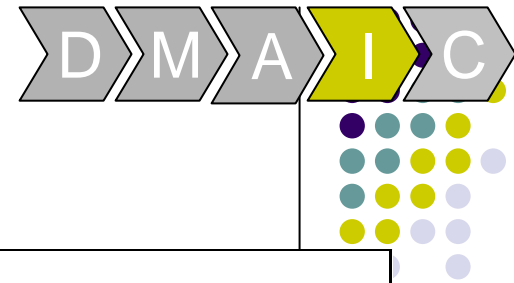


Improve Phase

AP Kanban Improvement



QFD



Project Name:

Financial Process

Technical Requirements

Customer Requirements

Cycle Time	8	9	3	3	9	9		
Accuracy of the Process	10	9	3	1	1			
Customer satisfaction	6	9	9		3	3		
Absolute weight	216	108	34	100	90			
Relative weight	1	2	5	3	4			

Importance	Standardized processes and procedures	Good housekeeping	Kanban and Visual Control	Waste identification and elimination	One piece flow		

Scorecard



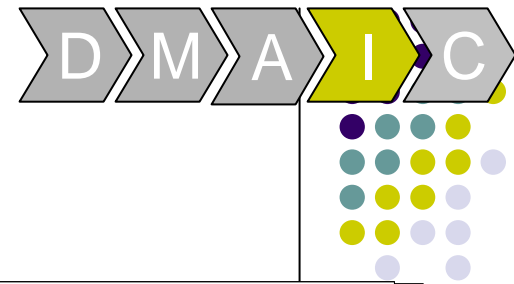
Proposed Process Measure	Data Collection Mechanism
Payroll and Pension Reporting	
Number and type of payroll problems encountered per number of employees	<ul style="list-style-type: none"> •Payroll Check sheet •Payroll metric log •Moving range and individual control chart of problems per employee
Payroll processing time by payroll period	<ul style="list-style-type: none"> •Payroll Check sheet •Moving range and individual control chart of payroll processing time
Purchasing and Accounts Payable	
Number of problems per invoice	<ul style="list-style-type: none"> •Accounts Payable Check sheet •Moving range and individual control chart of A/P problems per invoice
Time per invoice	<ul style="list-style-type: none"> •Accounts Payable Check sheet •Moving range and individual control chart of time per invoice
Percent invoices without purchase orders	<ul style="list-style-type: none"> •Accounts Payable Check sheet
Percent invoices paid within discount period	<ul style="list-style-type: none"> •Accounts Payable Check sheet
Monthly Reconciliation	
Number of problems by type	<ul style="list-style-type: none"> •Monthly Reconciliation Check sheet •Monthly Reconciliation Problem Pareto Chart

Scorecard

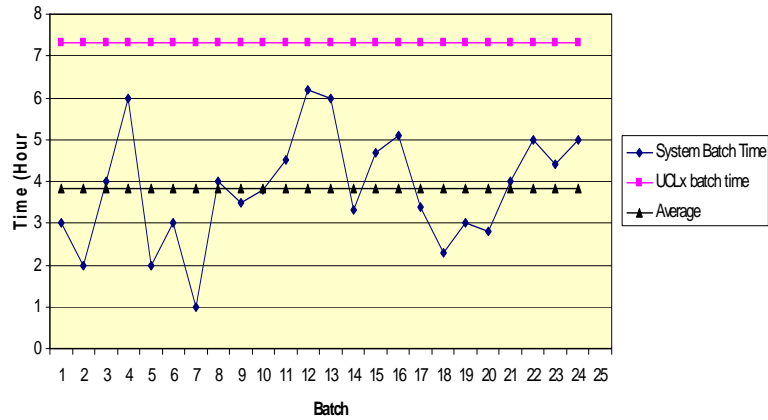


Proposed Process Measure	Data Collection Mechanism
Accounts Receivable	
Time per receipt	<ul style="list-style-type: none"> •Accounts Receivable Check sheet •Accounts Receivable Metrics Log •Moving Range and Individual Control Chart of time per receipt
Number of problems per receipt	<ul style="list-style-type: none"> •Accounts Receivable Check sheet •Accounts Receivable Metrics Log •Moving Range and Individual Control Chart of problems per receipt
Monthly Reconciliation	
Number of problems by type	<ul style="list-style-type: none"> •Monthly Reconciliation Check sheet •Monthly Reconciliation Problem Pareto Chart

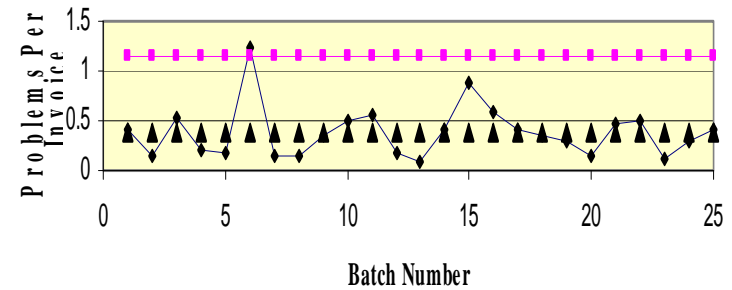
Dashboard



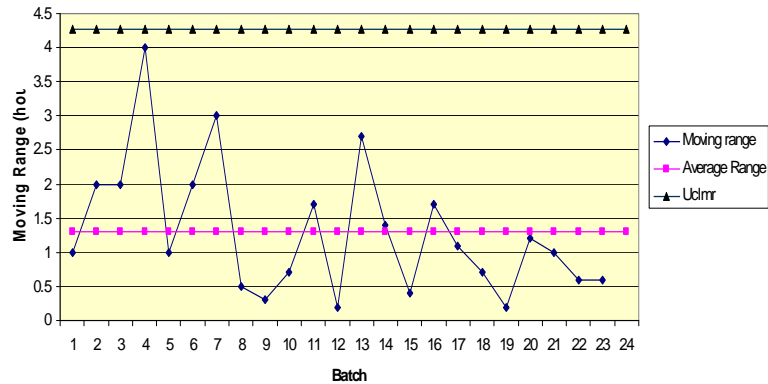
Individuals Control Chart for AP Batch Processing Time



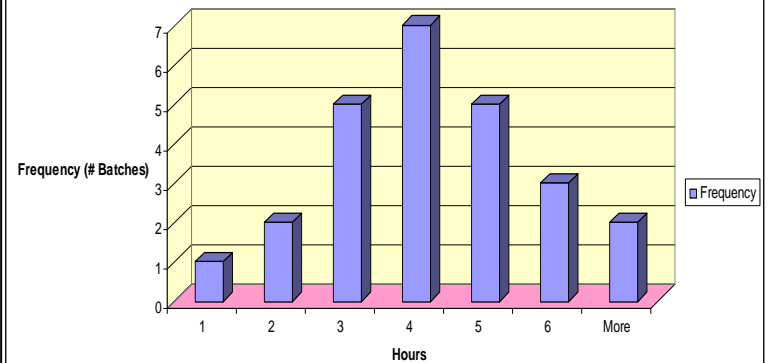
AP Problems Per Invoice Control Chart

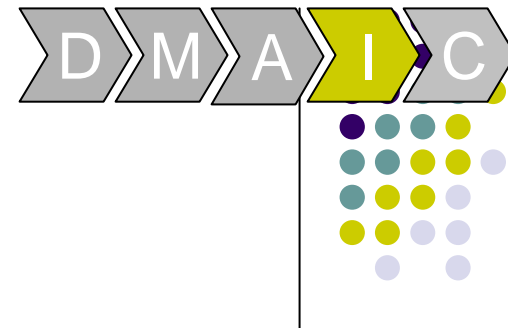


Moving Range Control Chart AP Batch Processing Time



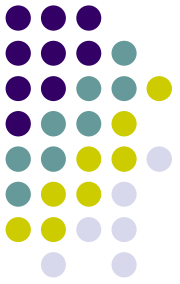
AP Batch Time (Hours) Histogram



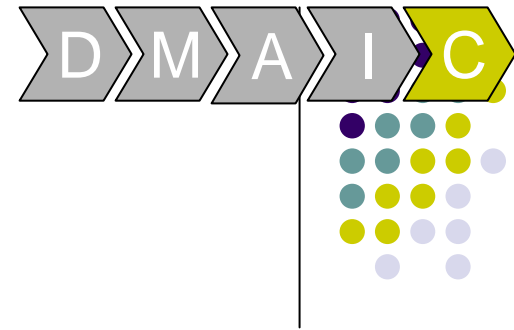


Revised VOP Matrix

CTS	Process Factors	Operational Definition	Metric	Target
Cycle Time	<ul style="list-style-type: none"> ▪Standard Procedures ▪Exist ▪Streamlined processes ▪Training ▪Volume of invoices 	Measure each process time	AP: cycle time – vendor invoice received to paid AR: time to deposit funds in bank Recon: time takes to close Payroll: Paid on time per schedule	AP: 10 business days AR: 2 days Recon: 10 days Payroll: Paid on time
Accuracy of the Process	<ul style="list-style-type: none"> ▪Training in Procedures and software. 	Measure each process and defect types	Defects per invoice (or paycheck) by process and type	No out of control points where assignable cause cannot be found
Customer Satisfaction	<ul style="list-style-type: none"> ▪Repeatable process ▪Collect and assess VOC 	Measure customer satisfaction through customer and vendor surveys.	% of positive responses for identified survey questions	60% of responses are rated 4 or 5 for identified questions



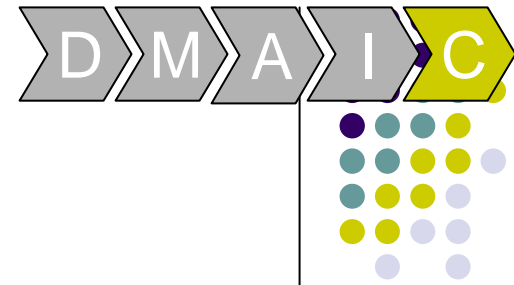
Control Phase



Improvements

Process	Average Estimated Processing Time Prior to Improvements	Average Estimated Processing Time After Improvements	Percentage Reduction of Processing Times
Payroll and Pension Reporting	60 hours	24 hours	60%
Purchasing/Accounts Payable	40 hours	24 hours	40%
Accounts Receivable	60 hours	6 hours	90%
Monthly Reconciliation	60 hours	8 hours	87%

Control Charts



Potential Moving Range and Individual Control Charts:

Payroll:

- Number of problems per employee
- Payroll processing time

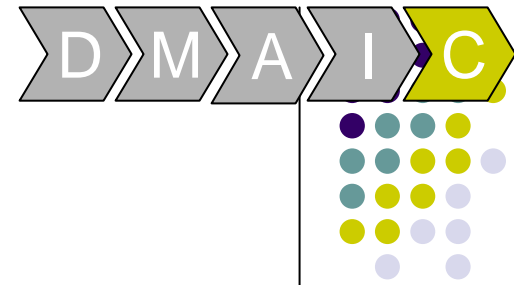
Accounts Payable;

- Problems per invoice
- Time per invoice

Accounts Receivable:

- Time per receipt
- Problems per receipt

Replication Opportunities



Migrated the Fire Department into the city's standardized and improved financial processes and systems when they became a city department.

The migrations was seamless. There were no paycheck errors during the first pay period using the improved procedures.