



**THE OHIO STATE UNIVERSITY**  
FISHER COLLEGE OF BUSINESS



# TE Pre-Audit Process Final DMAIC Report

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April 17, 2015



# AGENDA

1. INTRODUCTION & REFRESHMENTS
2. PRESENTATION
3. FEEDBACK



# PROJECT PARTICIPANTS

## **Champions:**

Korrina Thomas &  
Tim Ogonek

## **Data Analytics:**

Jessica Gravely &  
Alex Roman

## **Process Owner:**

Jennifer Snyder

## **Survey Expert:**

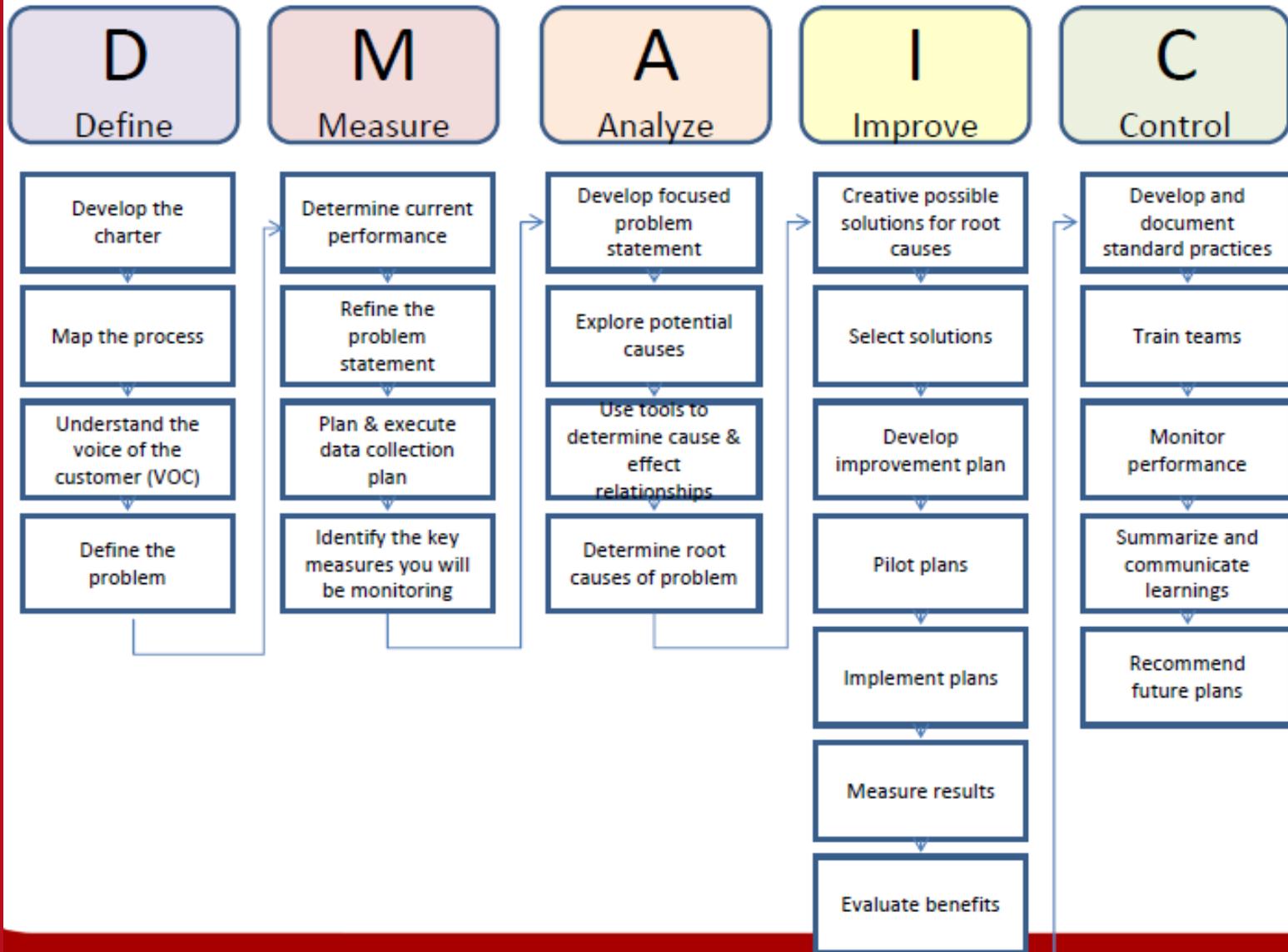
Pamela Allen

## **Team Members:**

Evan Jones, Helga Mattingly,  
Andy Wood, Tina Pike,  
Judy Reid

## **Project Coach:**

Cheryl Dickerson





# Define Phase



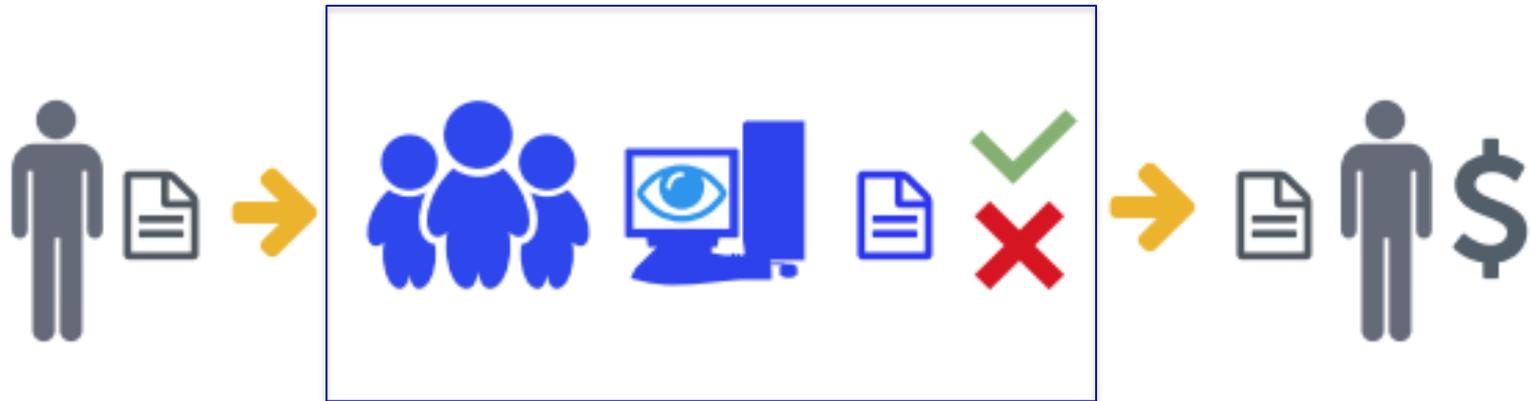
# PROBLEM STATEMENT

The Travel and Expense pre-audit process at Ohio Shared Services takes too long. In 2014, 67% of travel and expense requests were satisfactorily completed within 3 days of receipt compared to a target of 80%.



# PROJECT SCOPE

Reports processed by the TE team  
post-traveler submission and  
pre-reimbursement





# VOICE OF CUSTOMER



## Traveler:

1. Decrease pre-audit cycle time
2. Reduce/eliminate need for report resubmission



## TE Team:

1. Reduce/Eliminate rework
2. Better system design

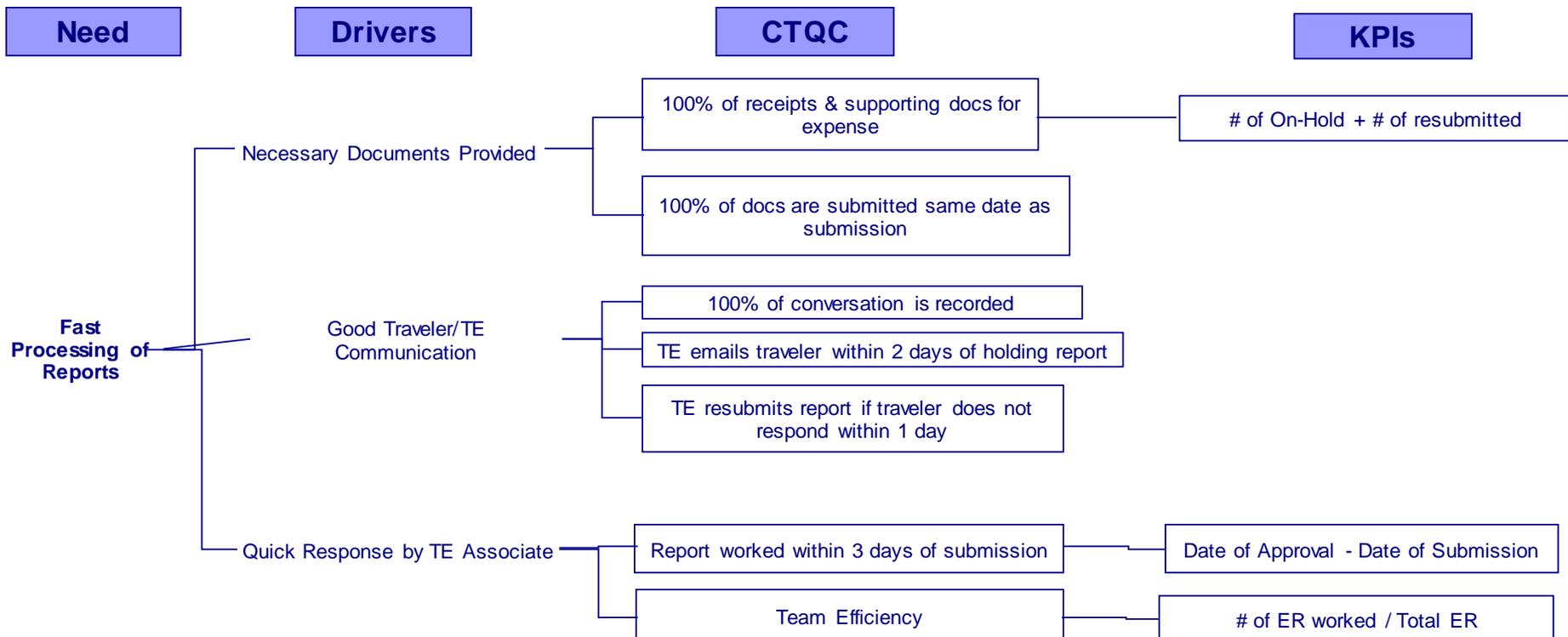


## OSS Managers:

1. Increase consistency in 3 day cycle time to 80%
2. Improve customer satisfaction
3. Standardize process



# VOICE OF CUSTOMER: CTQC





# BUSINESS CASE

**↑ Efficiency = ↑ Customer Satisfaction**

- Decreases cycle time of report
  - Less calls to call center
- Allows OSS to grow by introducing more service lines (potential reallocation)
  - Reduces cost to state agencies

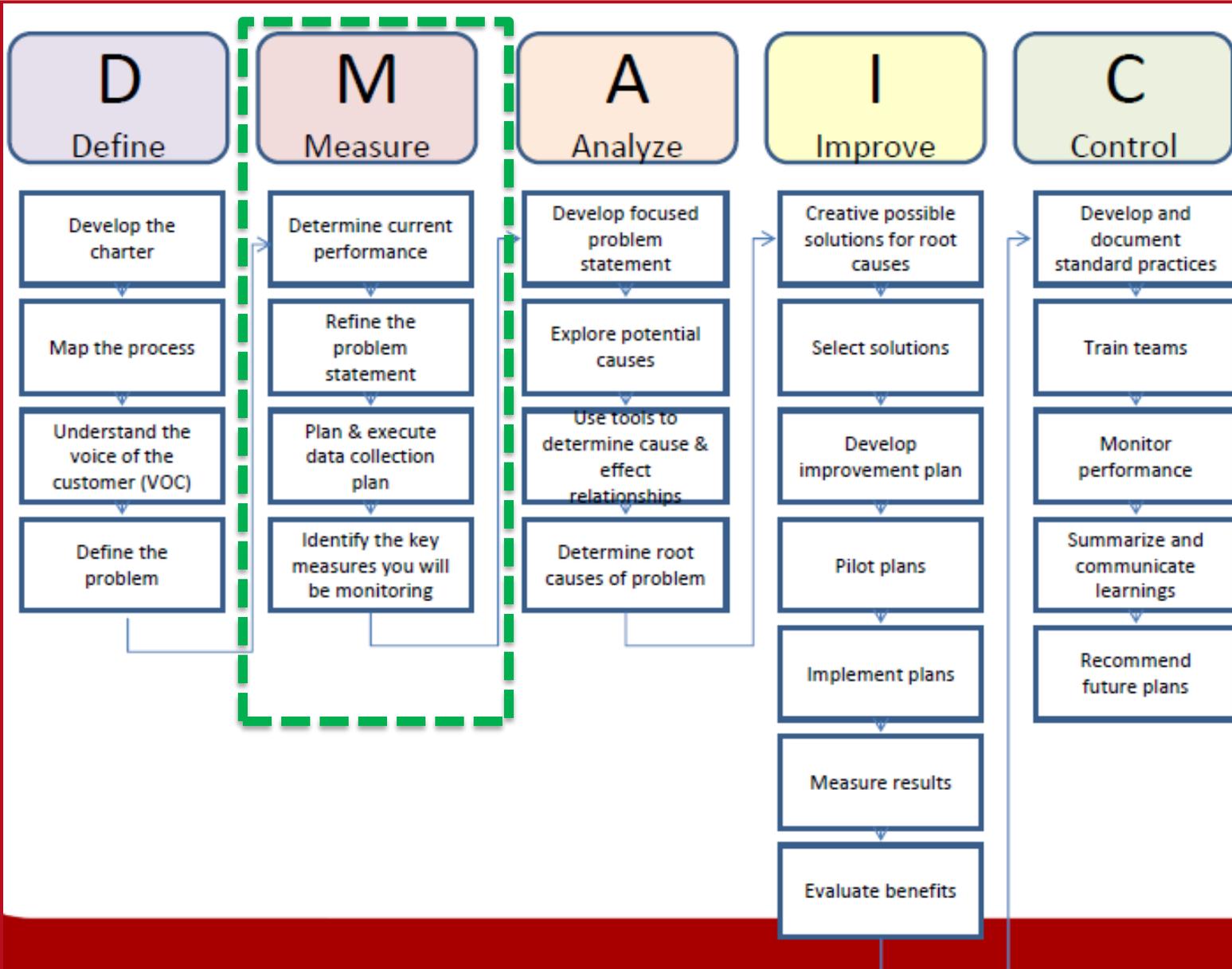


# DELIVERABLES

1. Establish team productivity standard
2. Validate or revise standard operating procedure/work distribution
3. Timely & accurate processing of TE reports
4. Improved customer satisfaction
5. Develop new customer satisfaction measure/survey



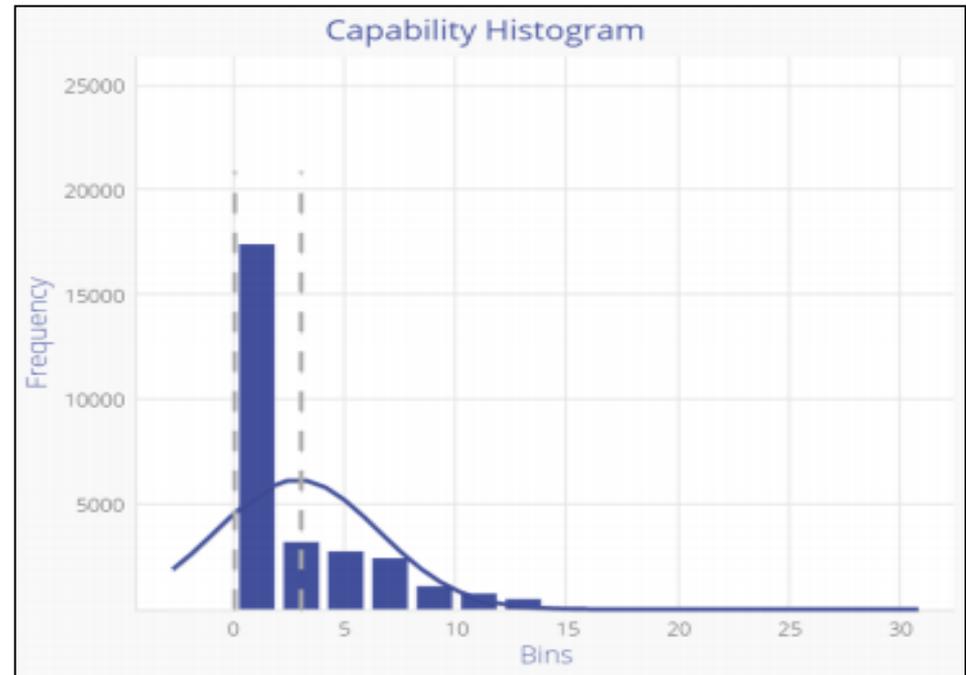
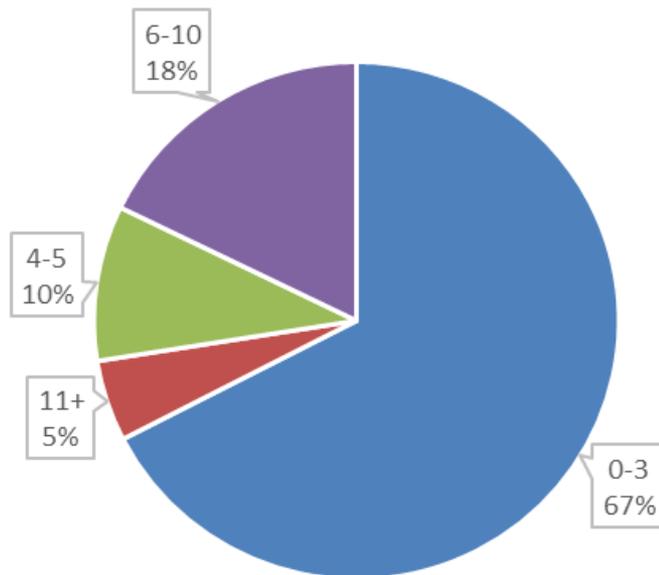
# Measure Phase





# 2014 BASELINE PERFORMANCE

2014 Baseline Performance

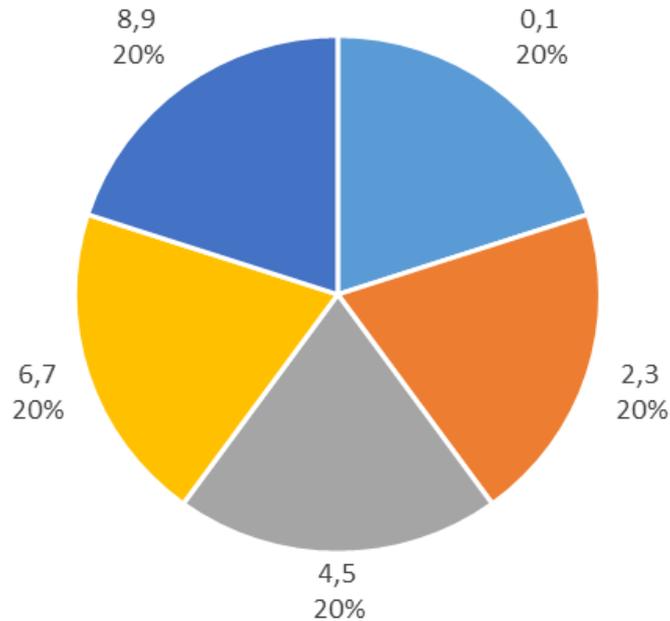


In 2014, 33% of ER were processed in more than 3 days.

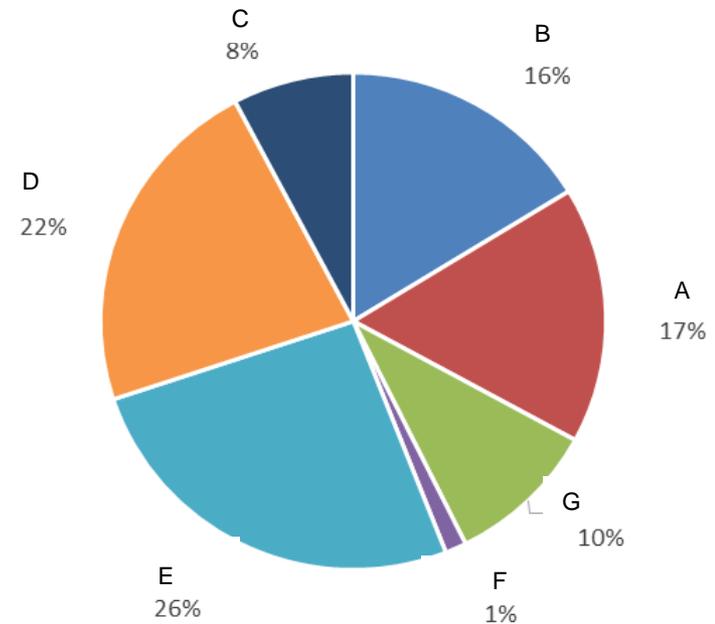


# 2014 WORK DISTRIBUTION

2014 Work Distribution



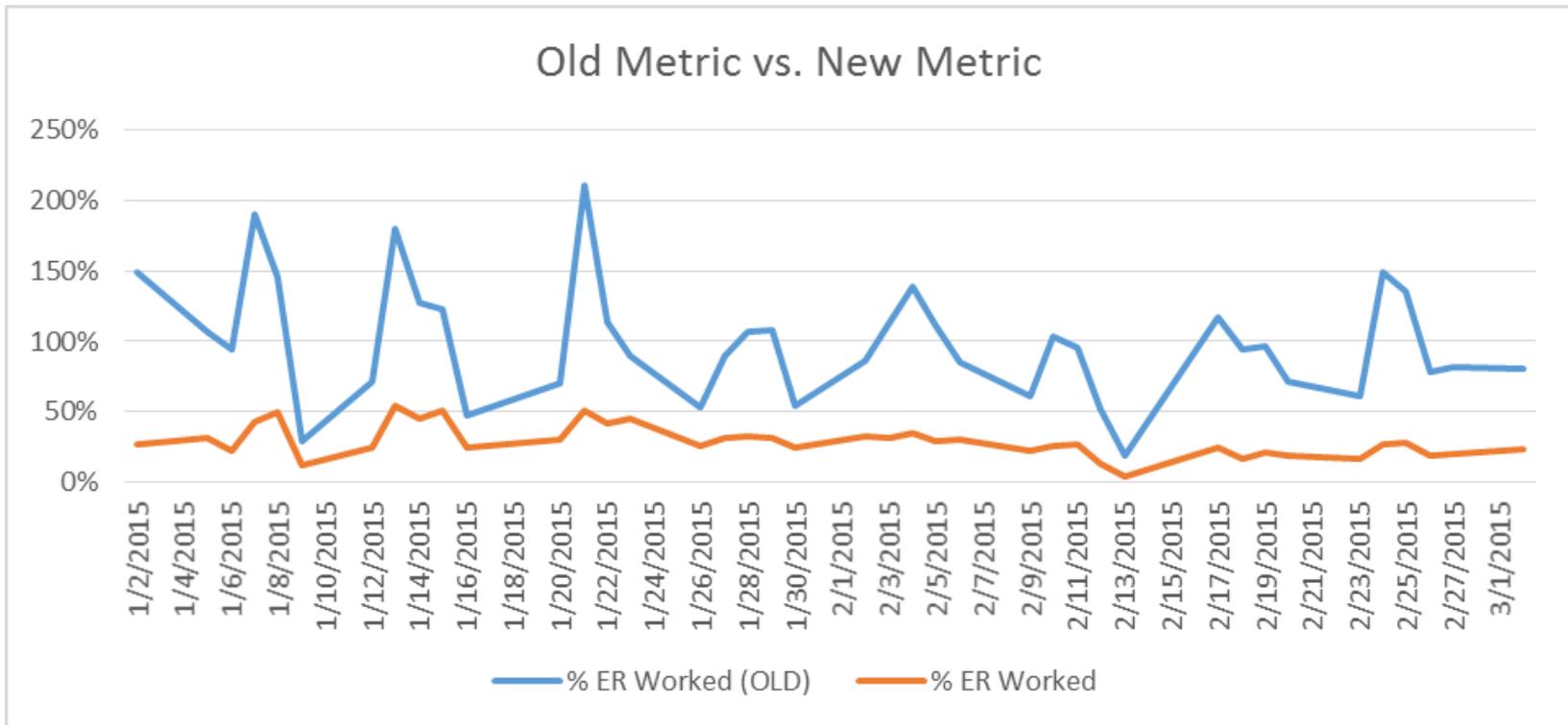
2014 Reports Finished by TE Associate



The charts demonstrate that work is evenly distributed, but not evenly accomplished.



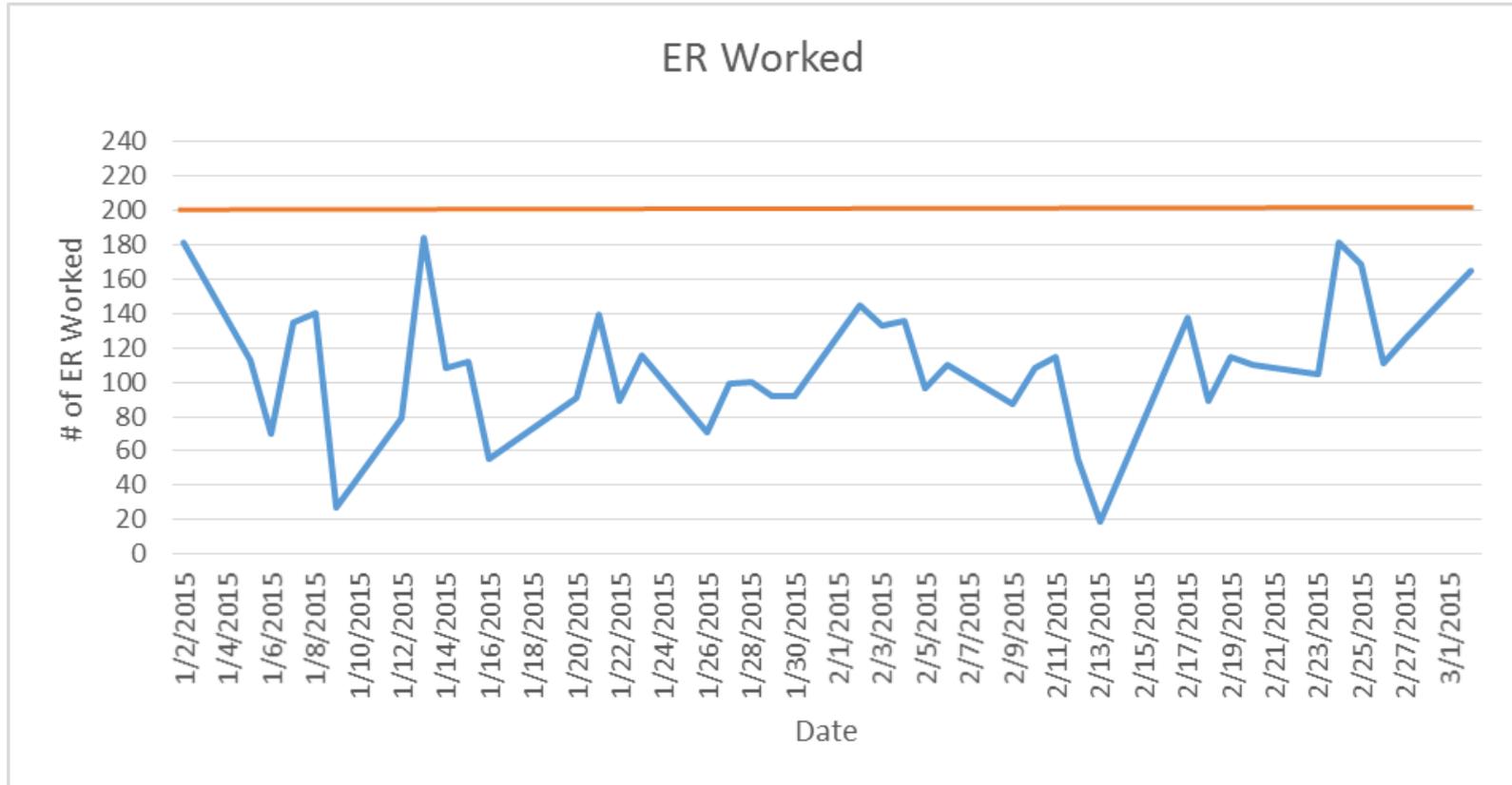
# EFFICIENCY METRICS



Old calculation shows that process has great variability with no clear goal. Efficiency recalculated to reduce variability. New metric reveals process is stable.



## GAP from 2015 Data

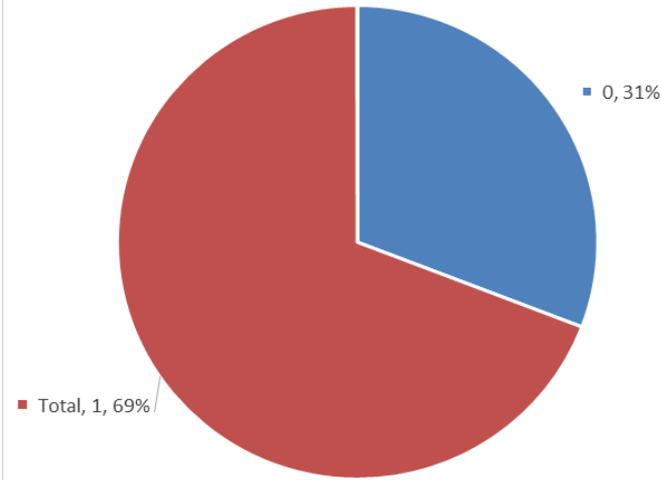


Average activity takes ~3 mins (Jessica's time study).  
Working goal of 200 reports per day is not reached. This goal requires 25% of total available capacity.

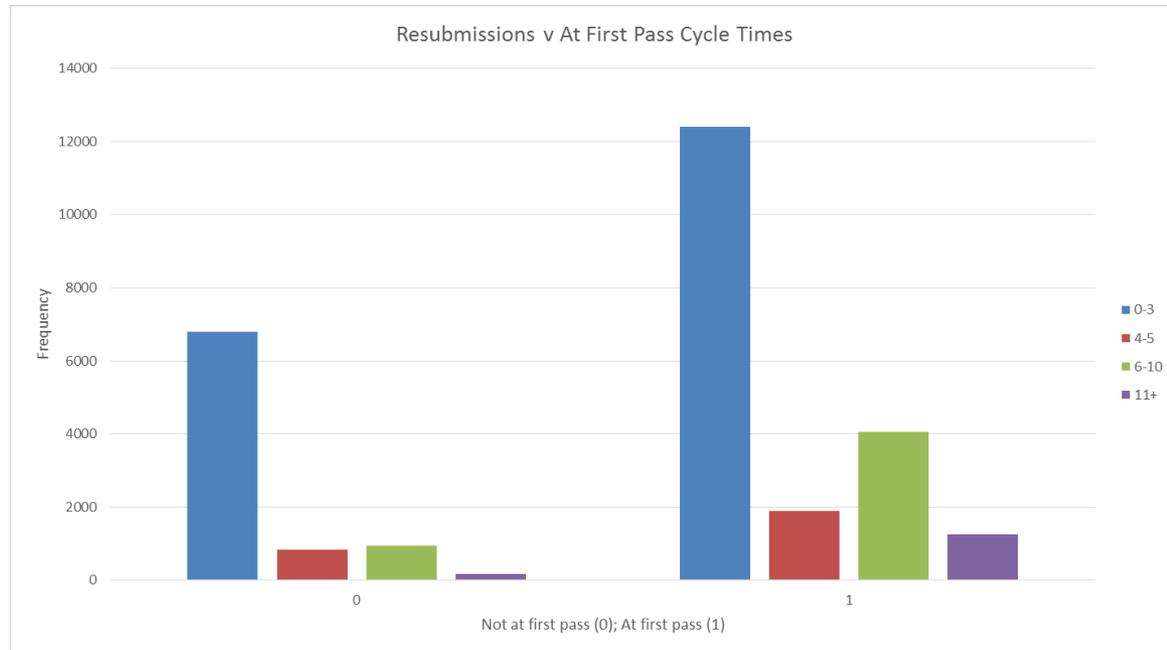


# RESUBMISSIONS

At First Pass Breakdown



Resubmissions v At First Pass Cycle Times

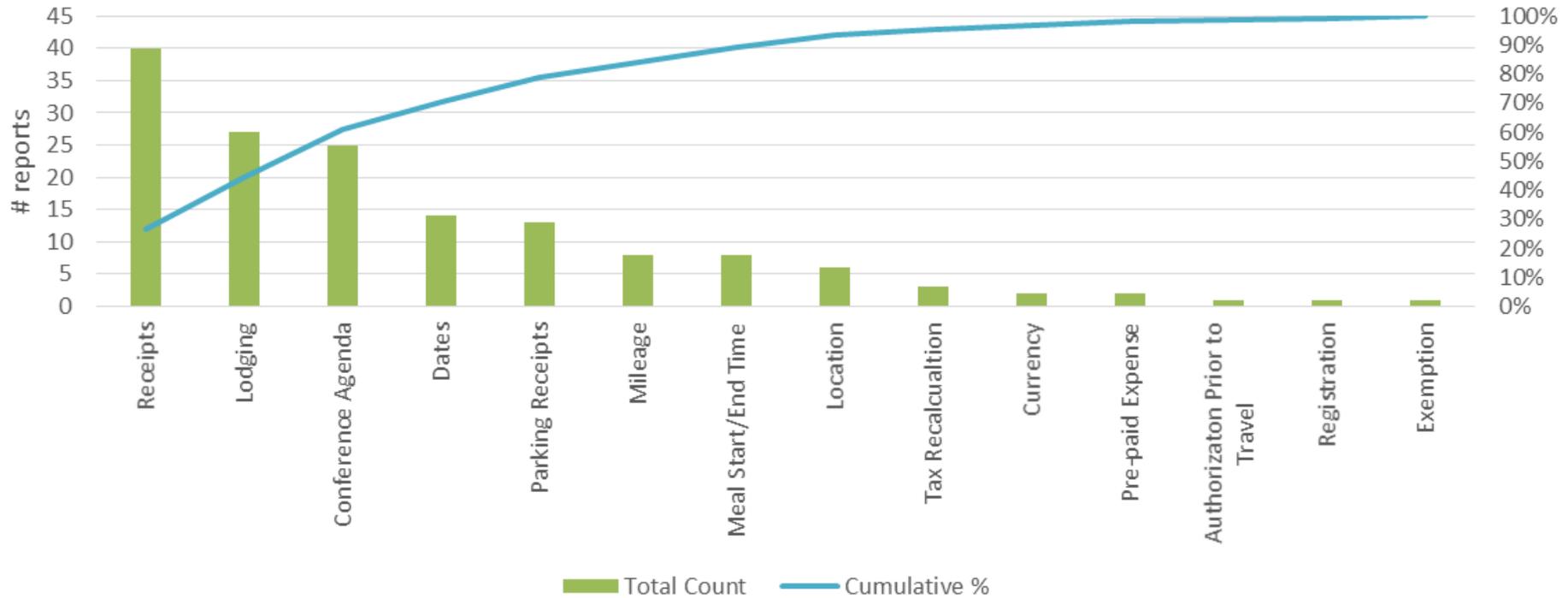


Majority of reports show as approved at first pass (1). First pass reports have longer cycle times. Moving forward: figure out why.



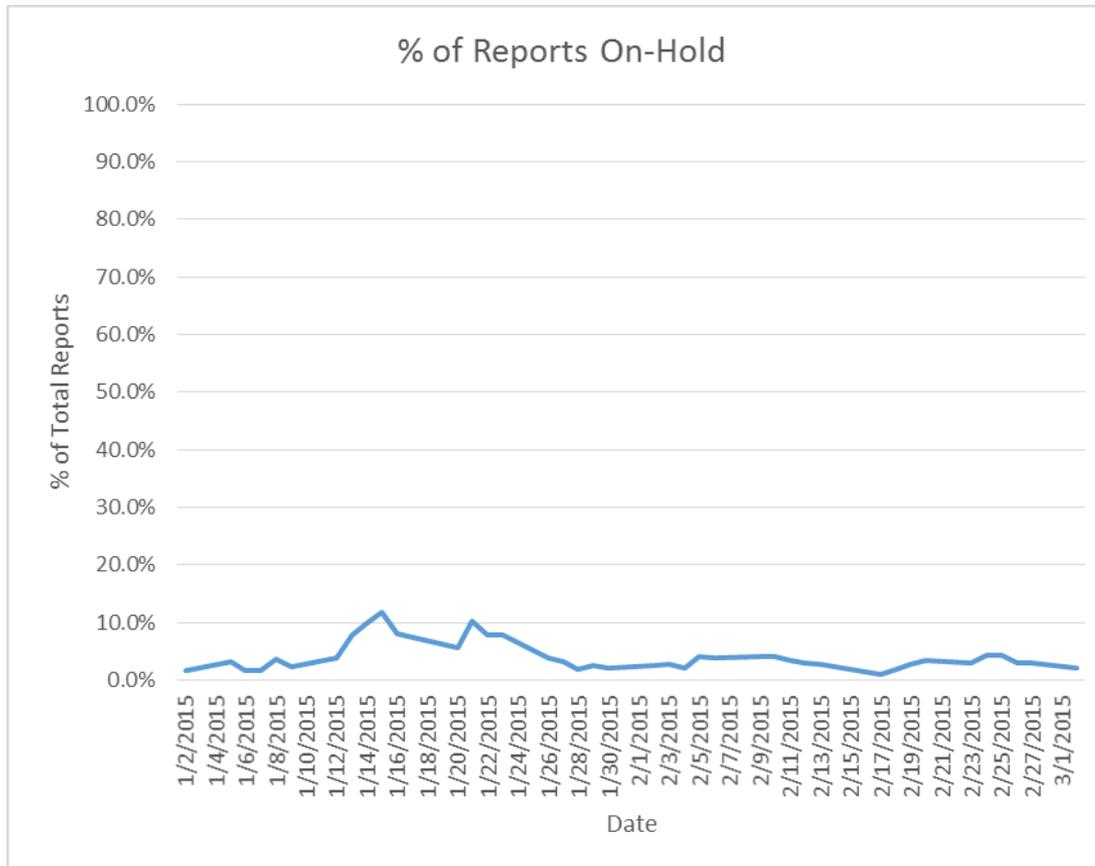
# RESUBMISSION PARETO

Most Frequent Reasons for Resubmission





# ON-HOLD BREAKDOWN

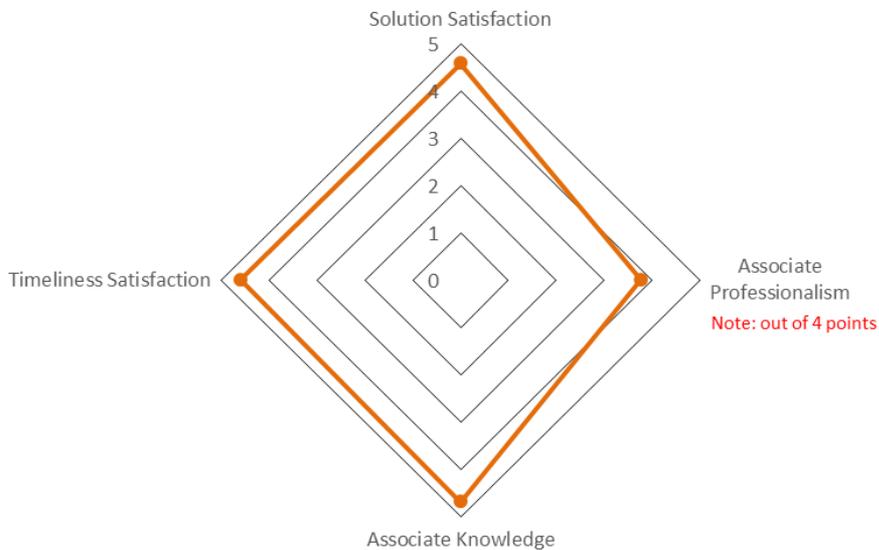


This chart demonstrates there is a relatively low percentage of total ERs put on hold.

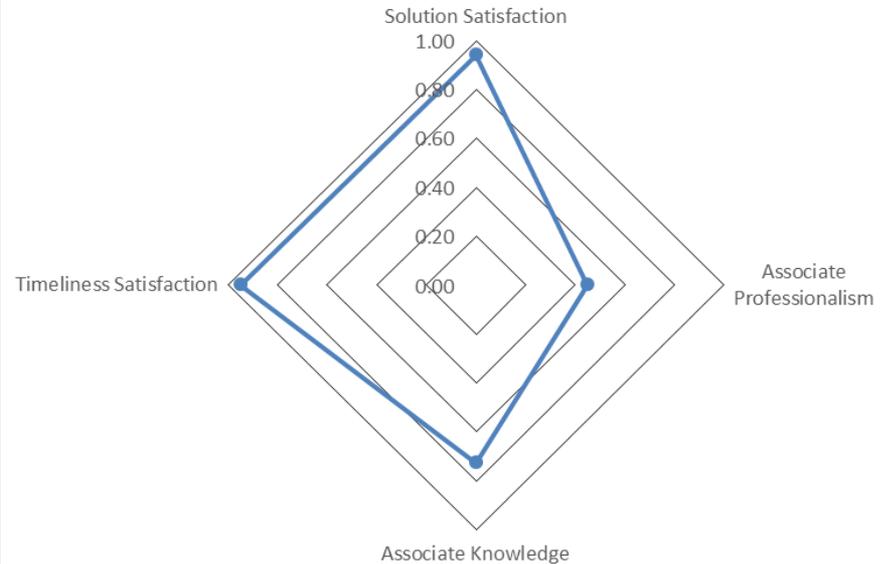


# CUSTOMER SATISFACTION

Dimensions of Customer Satisfaction  
Mean Scores



Dimensions of Customer Satisfaction  
Standard Deviation

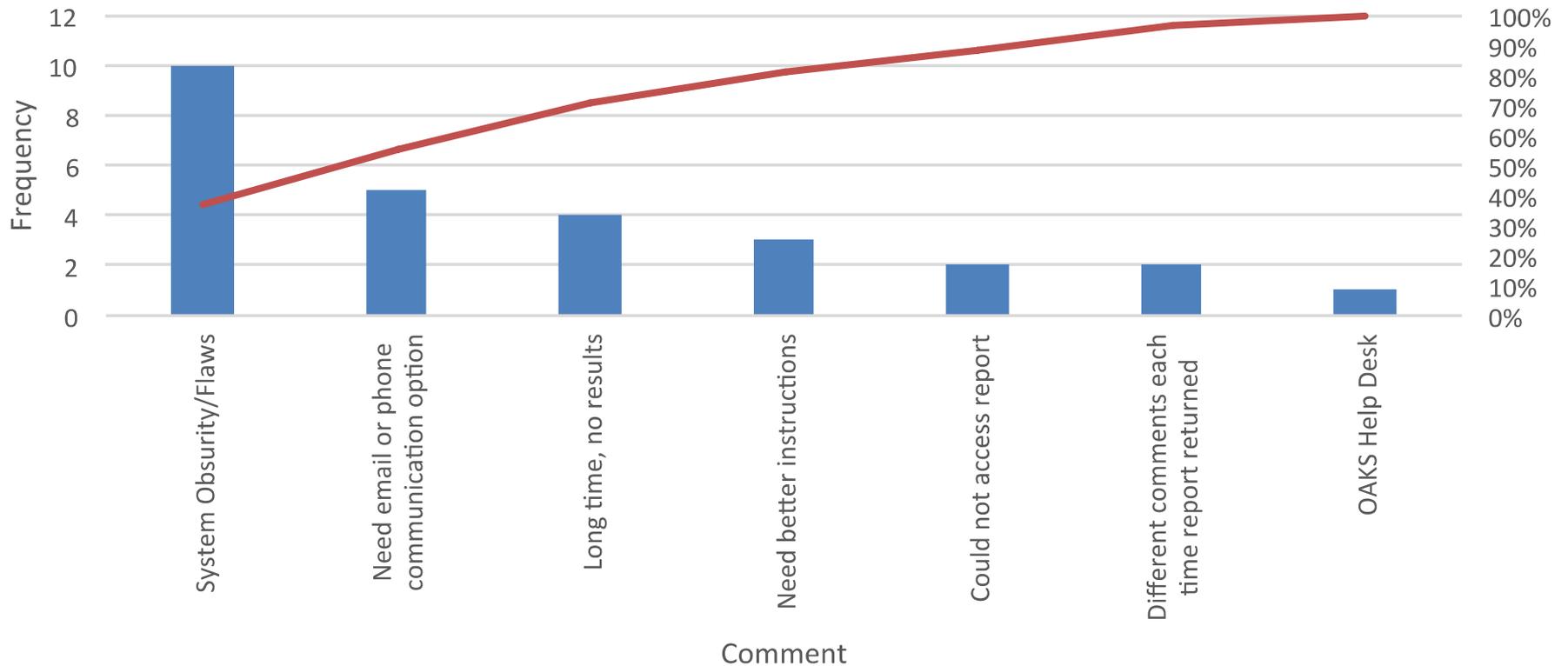


Conclusions: Scoring well overall. Need to focus on timeliness and solution satisfaction consistency. Pareto shows VOC.



# CUSTOMER SATISFACTION

## Dissatisfied Customer Comments



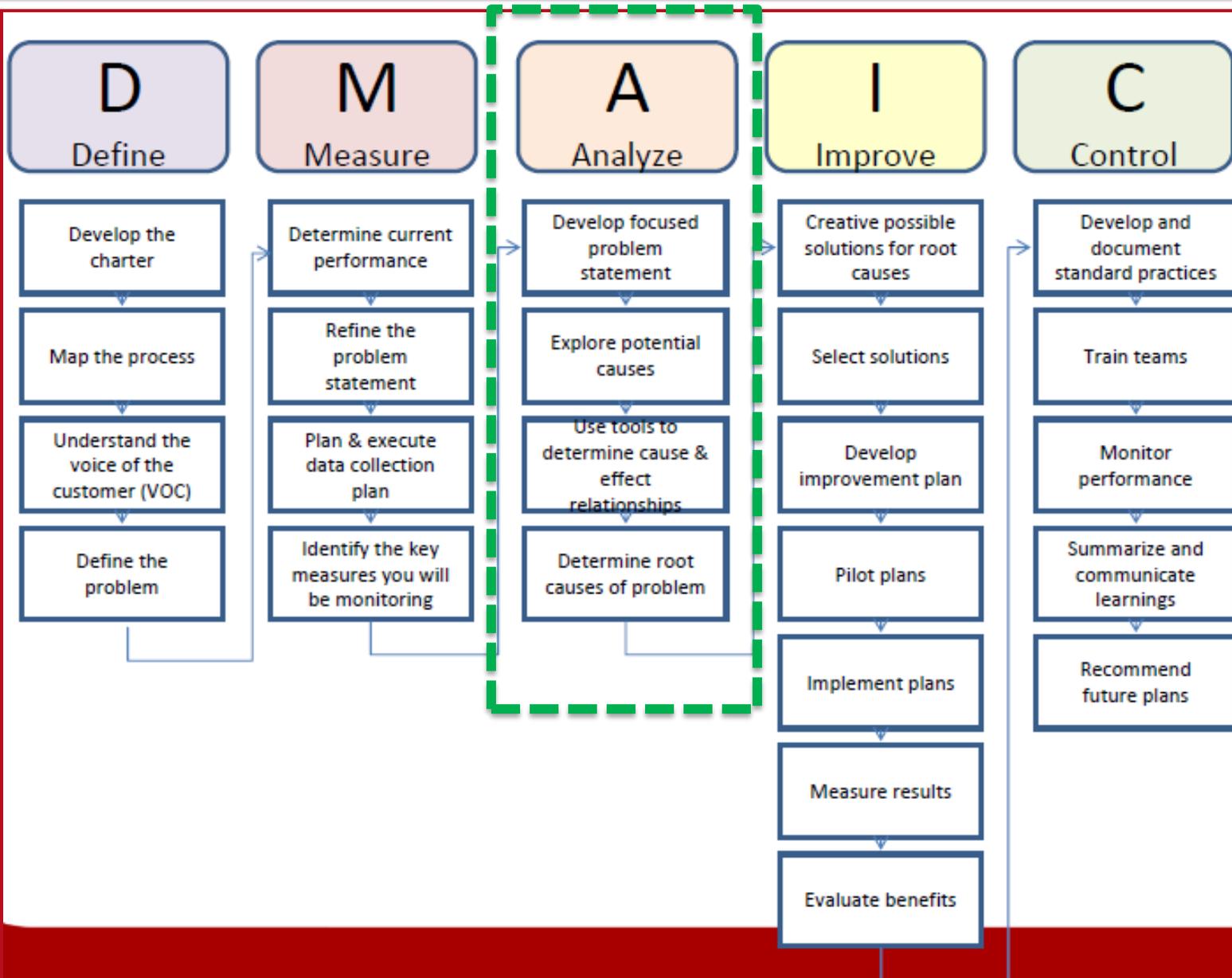


## KEY TAKEAWAYS

1. Project is focused on voice of customer
  - Decrease cycle time defects (>3day processing time)
  - Increase customer satisfaction
2. Key metrics: cycle time, # reports requiring extra attention, efficiency
3. Resubmissions have a significantly shorter cycle time
4. Current data is very good, but not complete.
  - Large gap between goal and performance identifies that potentially a large portions of daily activity are not recorded by system.

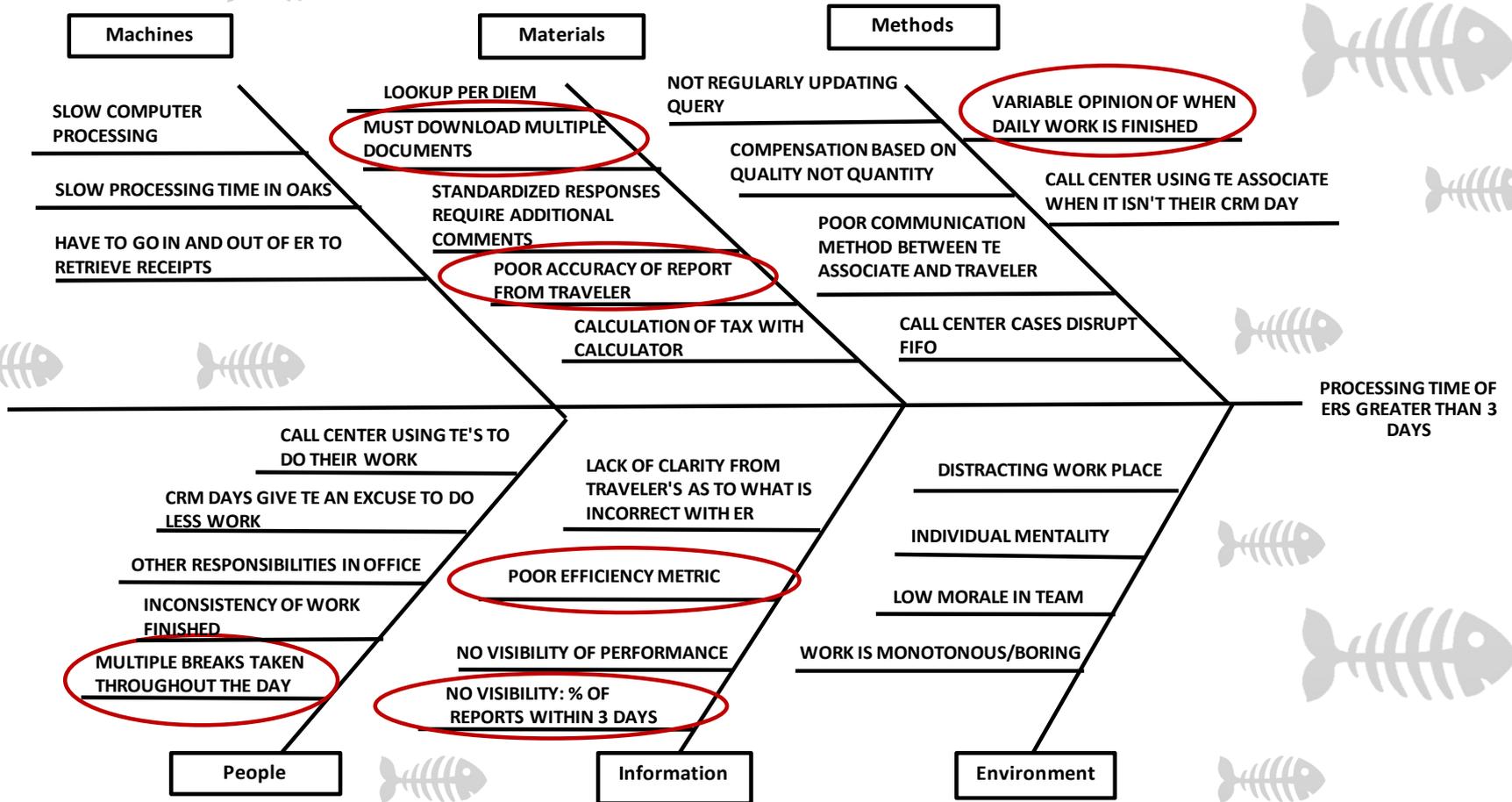


# Analyze Phase





# FISHBONE DIAGRAM





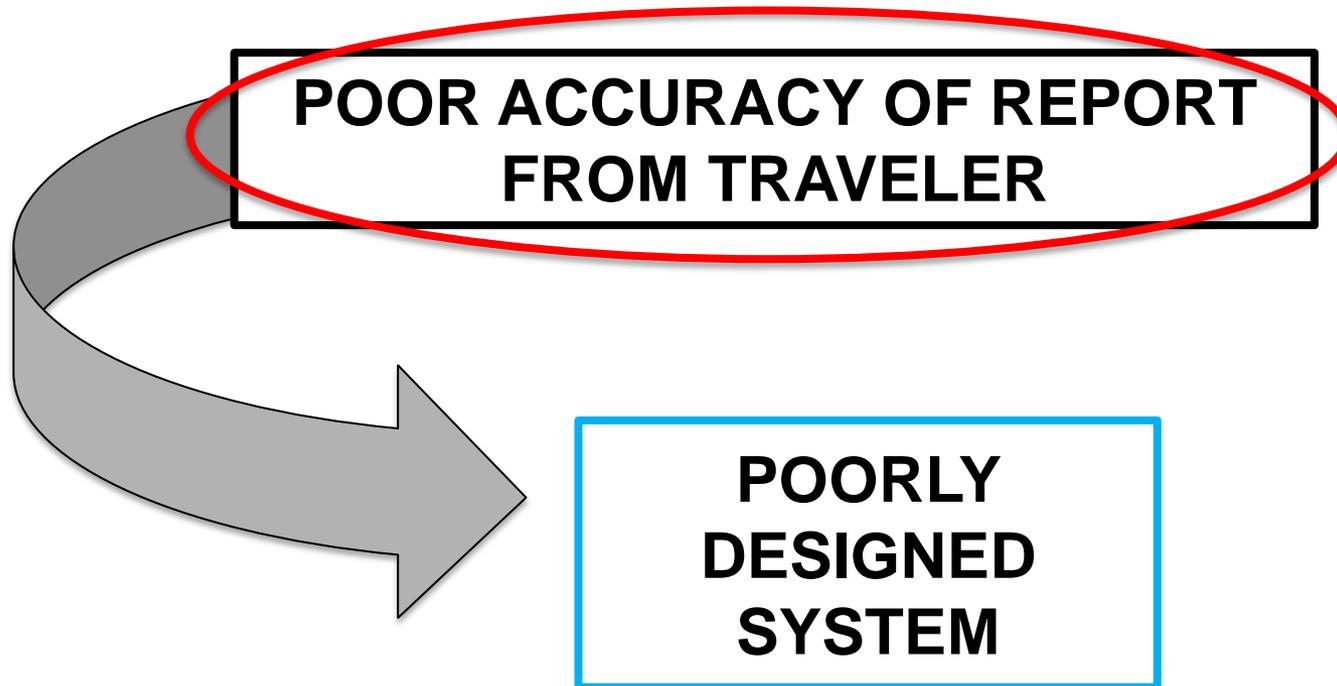
# ROOT CAUSES

**MUST DOWNLOAD MULTIPLE DOCUMENTS**

**THE SYSTEM ALLOWS REPORTS TO BE SUBMITTED WITHOUT ALL REQUIRED INFO/DOCS**



# ROOT CAUSES





# ROOT CAUSES

**POOR EFFICIENCY METRIC**

**CALCULATION DOES NOT  
INCLUDE QUEUE OF  
REPORTS FROM PREVIOUS  
DAY**



# ROOT CAUSES

**NO VISIBILITY: % OF  
REPORTS PROCESSED WITHIN 3 DAYS**

**NOT RECORDED ON  
DAILY SCORECARD**



# ROOT CAUSES

**VARIABLE OPINION OF WHEN DAILY  
WORK IS FINISHED**

**NO STANDARD FOR  
INDIVIDUAL DAILY  
WORKLOAD**



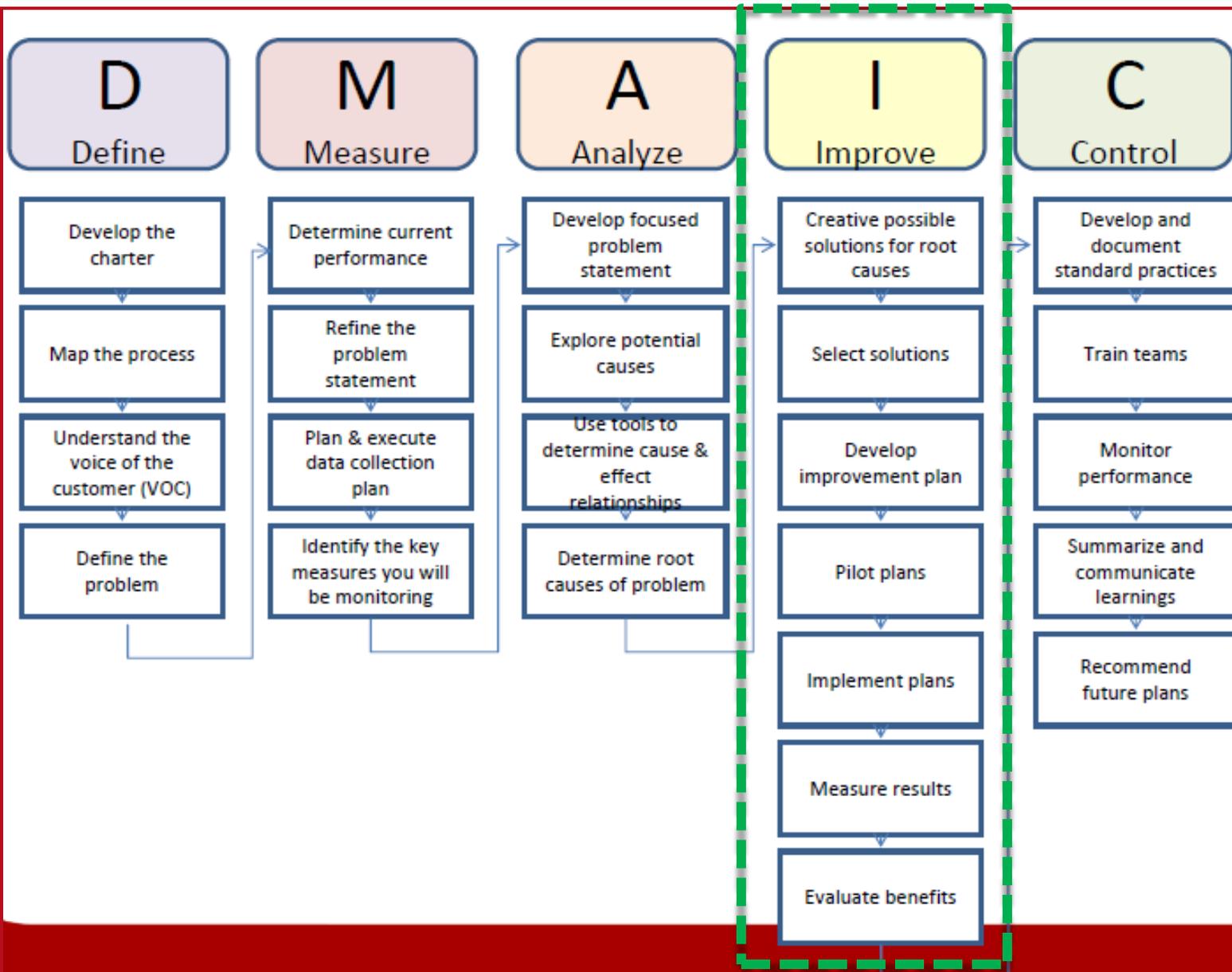
# ROOT CAUSES

**BREAKS TAKEN THROUGHOUT THE DAY**

**WORK IS  
MONOTONOUS**



# Improve Phase





# RECOMMENDATIONS AND IMPLEMENTATION PLAN



## SHORT-TERM

1



# Recalculate Efficiency Metric

Include queue in beginning balance

Include metric into daily scorecard

Put daily scorecard in visible space

Short-term goal of 50% efficiency

Long-term goal of 70% efficiency



## SHORT-TERM

2

Include % of Reports Processed  
Within 3 Days

Include metric into daily  
scorecard

Put daily scorecard  
in visible space



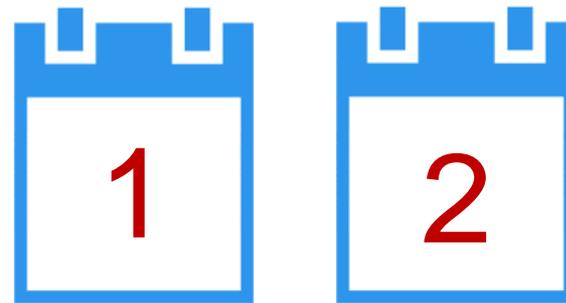
## SHORT & LONG-TERM

3

Define Standard for when Daily Work is Completed

SHORT-TERM

200 ERs



LONG-TERM



## SHORT-TERM

4

Create New Standard Operating Procedure for Updating Queue

Run new query at 9am and 1pm



## SHORT-TERM

5



Eliminate CRM Days

Calls go to TE who worked on  
report initially



## SHORT-TERM

6

# Improve Team Morale



## Monday Morning Meetings

Review  
performance from  
previous week

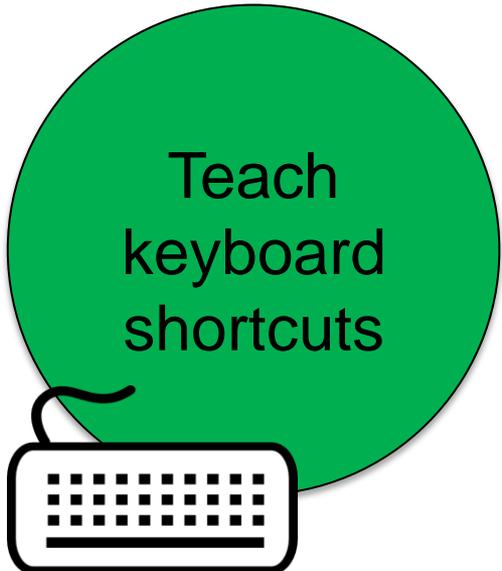
Discuss team  
goals, obstacles,  
work conflict



## SHORT-TERM

7

# Computer Training Session



Teach  
keyboard  
shortcuts



Discuss best  
way to do  
reports



## SHORT-TERM

8

**TELL US WHAT  
YOU THINK**

# Create New Customer Satisfaction Survey

1

Create  
Survey

2

Manager  
Approval

3

Send to  
Customers



**Travel & Expense Customer Satisfaction Survey**

# SAMPLE SURVEY

1. What best describes the reason for your call?

- First time submission of a report
- Resubmission of a report
- Timeliness of service
- System/ OAKS issues|
- Other (type in response)

2. How long has it been since you submitted your travel and expense report?

- 0-3 days
- 4-5 days
- 6-10 days
- 11+ days
- Does not apply

3. What best describes your experience in the OAKS System?

1	2	3	4	5	□
Poor	Fair	No Opinion	Good	Excellent	Does not apply

4. How would you rate the ability to communicate with an associate to resolve your inquiry?

1	2	3	4	5	□
Poor	Fair	No Opinion	Good	Excellent	Does not apply

5. How satisfied are you with the timeliness of the resolution?

1	2	3	4	5	□
Not satisfied	Somewhat satisfied	Neutral	Satisfied	Very satisfied	Does not apply

6. How satisfied are you with the solution?

1	2	3	4	5	□
Not satisfied	Somewhat satisfied	Neutral	Satisfied	Very satisfied	Does not apply

Additional Comments:



## LONG-TERM

9

# Redesign system

Freeze  
correct  
parts of  
report



View all  
attachments  
in one  
window



Categorize  
receipts



Traveler  
cannot  
submit ER  
without all  
necessary  
documents

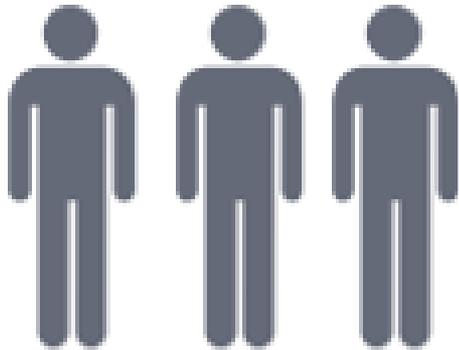




VERY LONG-TERM

10

Reallocate People to Other Roles



= 50% CAPACITY

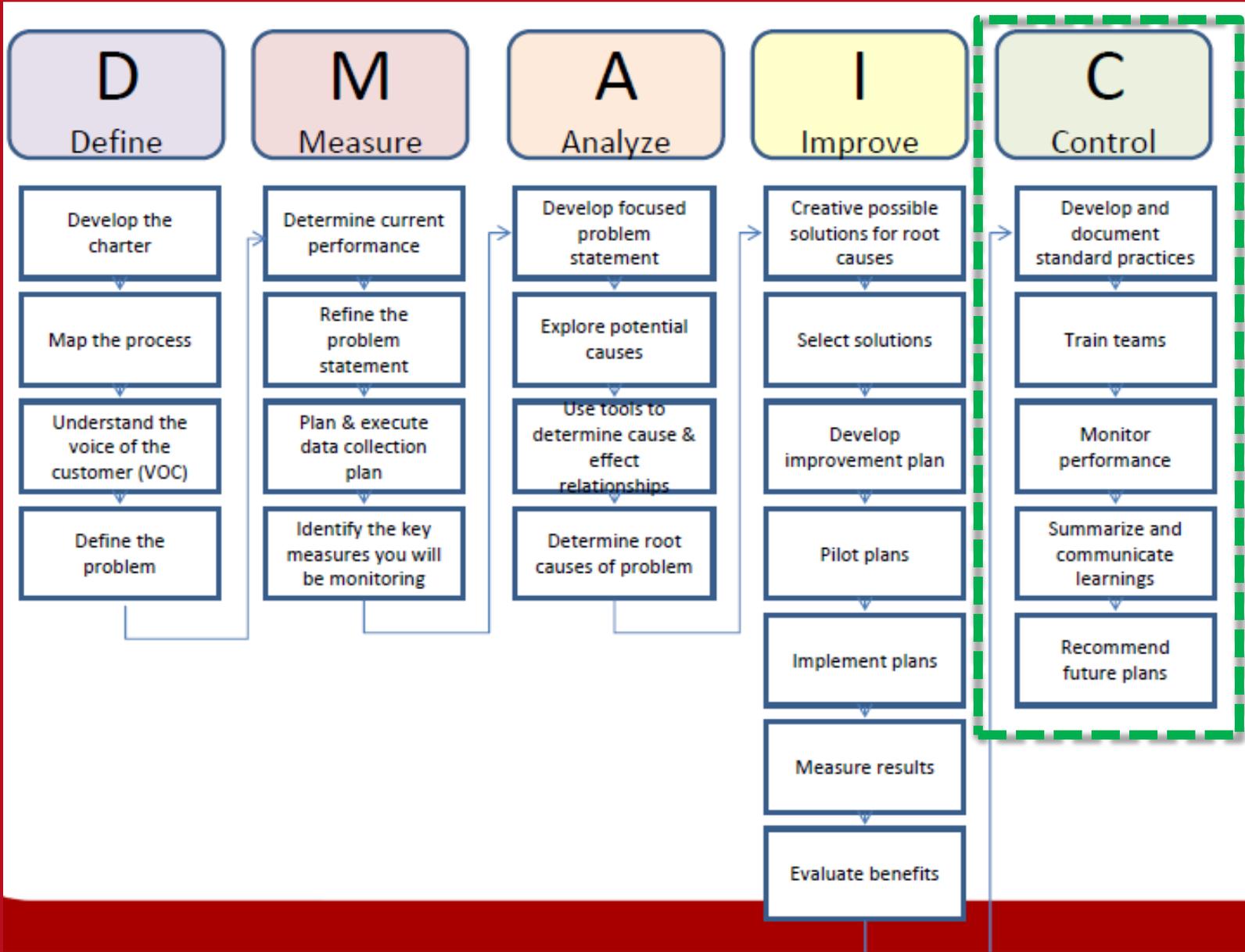


# KEY TAKEAWAYS

1. A lot of flaws in the system allow imperfections into the process, increasing cycle time
2. New metrics allow for better understanding of current performance by the TE team
3. More standards are needed in order to increase team efficiency & morale, and in order to achieve better customer service



# Control Phase





# TRACK KPI's

1. Cycle time
2. Efficiency
3. Daily work (# reports processed)



# CYCLE TIME

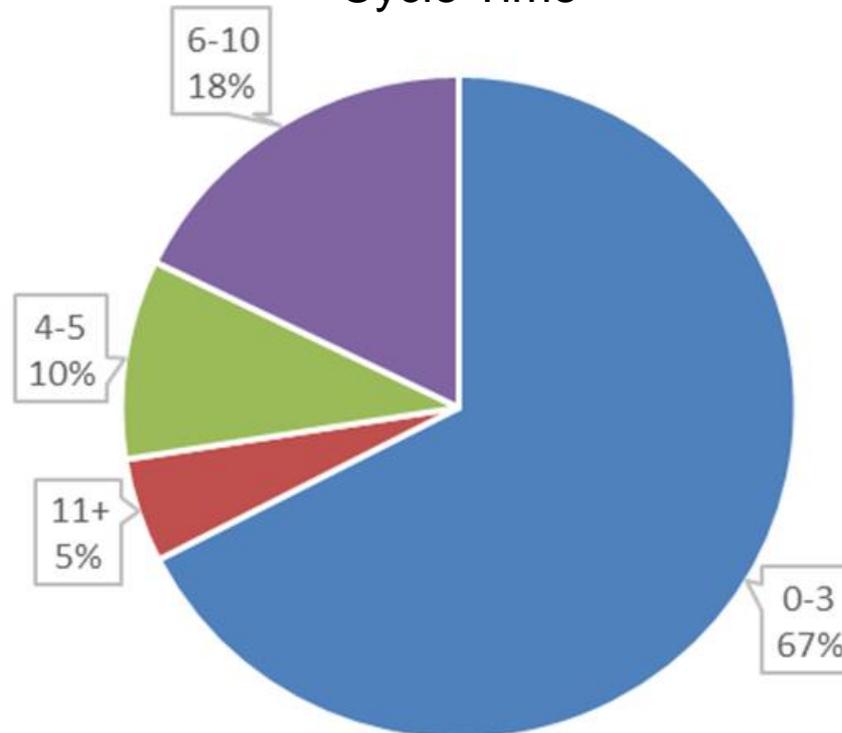
Team KPIs	Metric Type	3/24/15	3/25/15	3/26/15	3/27/15	3/30/15	Team Target	Target Met
Avg time to pre-audit expense report (in days)	OSS	1.9	2.2	2.5	3.4	3.0	<3 Days	✔



**CURRENTLY REPORTED**

Breakdown of Processed Report Cycle Time

**NEW ADDITION**





# CYCLE TIME

(Approval Date – Submission Date)



## Target

80% processed in  
≤ 3 days

## Data Location

Scorecard in Area

## Collection Interval

Daily



## Reaction Plan



1. Put other responsibilities on hold
2. FIFO method without number assignments
3. Add floating team member
4. Work overtime



# EFFICIENCY

# ERs Worked/(Beginning Balance + # ERs Received)



Target

25% (short-term)  
50% (mid-term)  
70% (long-term)

Collection  
Interval

Daily

Data Location

Scorecard in Area



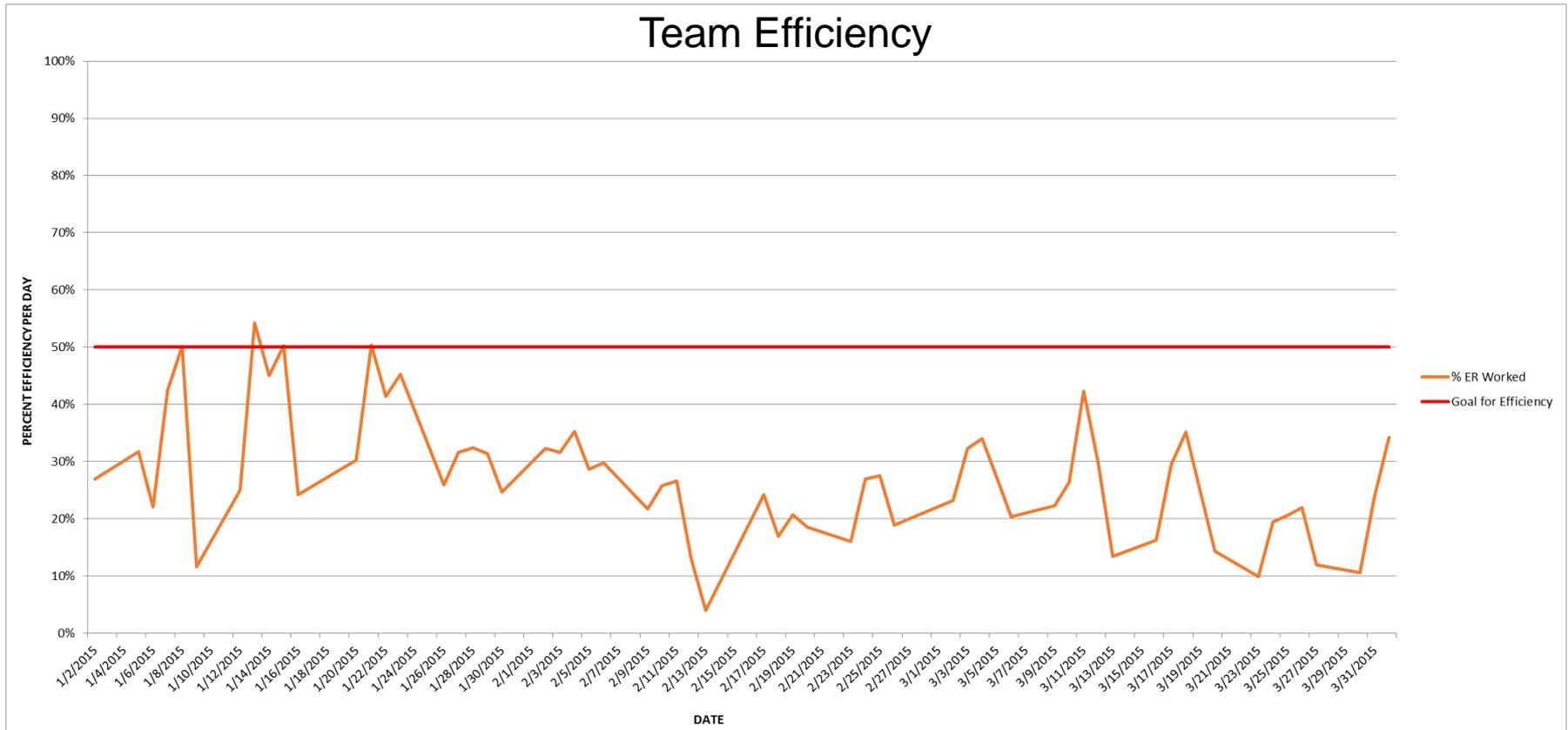
Reaction Plan



1. Put other responsibilities on hold
2. FIFO method without number assignments
3. Add floating team member
4. Work overtime



# 2015 EFFICIENCY METRICS



New calculation will be used moving forward. Short term goal of 25%, scaling to 50%, and eventually 70%+.



# DAILY WORK

## (# Reports Processed)



Target

200 reports/day

Collection  
Interval

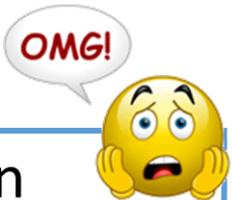
Daily

Data Location

Scorecard in Area



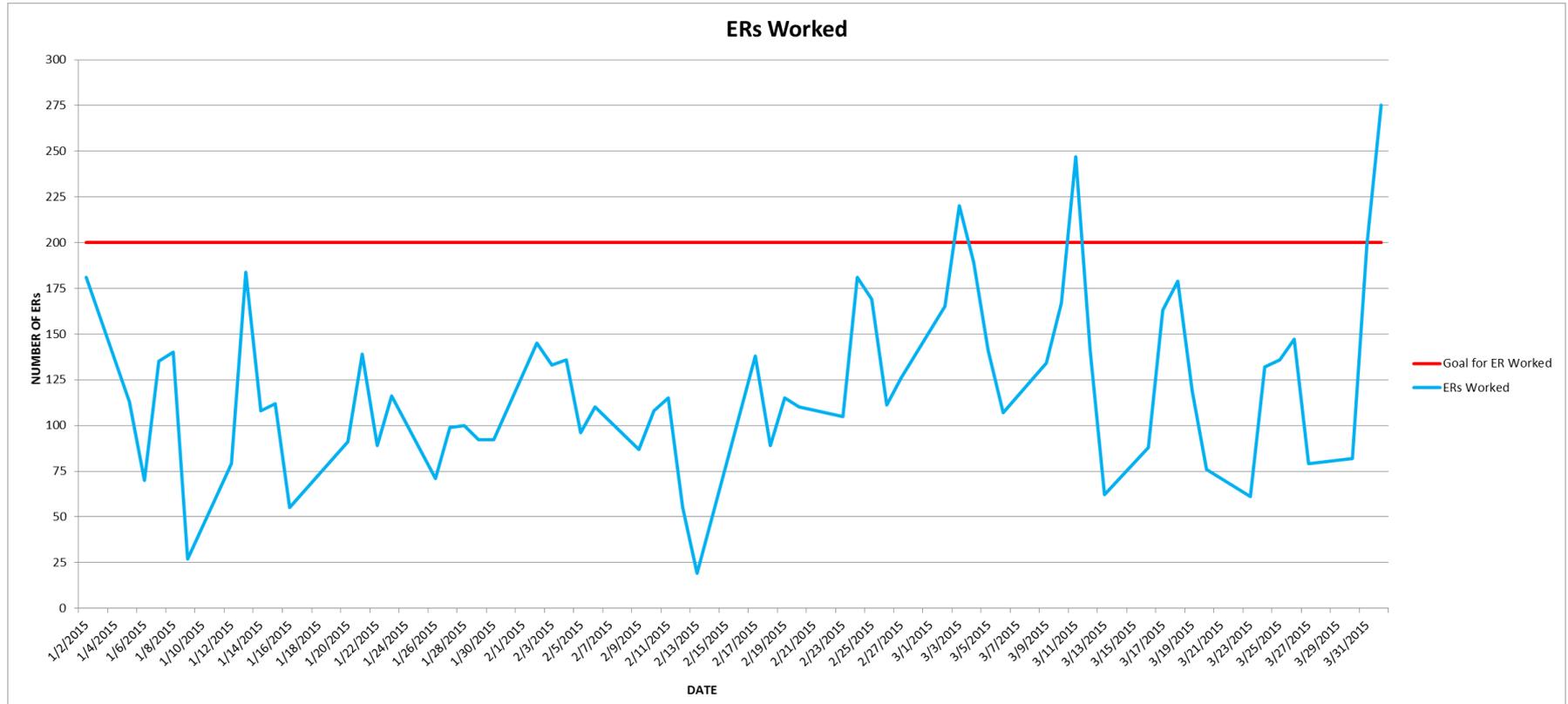
Reaction Plan



1. Help other associates who are struggling to meet quota



# 2015 DAILY WORK COMPLETED



Goal of 200 reports per day rarely reached. Productivity spiked when we were at OSS and again on 3/31. There has been an increase in variability during March 2015.



# NEW DAILY SCORECARD

## Travel & Expense Daily Scorecard as of: 03/30/2015

Operational Metrics	Metric Type	3/24/15	3/25/15	3/26/15	3/27/15	3/30/15	Operational Target	Target Met	5 Day Avg. Improvement	Average	Comments
Opening Balance of ER Pre-Audit		550	545	523	522	583				535	
(+) # of ERs Received		127	114	146	140	188				132	
New ER Submissions		102	77	114	107	156				100	
ER Re-Submissions		25	37	32	33	32				32	
(-) # of ERs Worked		132	136	147	79	82				124	10 ERs are On Hold with Auditors at OSS
ERs Approved for Payment		88	95	120	61	53				91	
ERs Denied		0	0	0	0	0				0	
ERs Returned to Traveler		44	41	27	18	29				33	
Ending Balance of ER Pre-Audit		545	523	522	583	689				543	
% of Received ERs Worked	OSS	104%	119%	101%	56%	44%	> 85%	⊗	↓	95.1%	
% of ER Ending Balance Worked	OSS	19%	21%	22%	12%	11%					
<b>% of ERS Processed ≤ 3 Days</b>											
Pre-Audits Reviewed		11	11	14	7	6				11	
Pre-Audits Passing QA		11	11	14	7	6				11	
Pre-Audit Accuracy %	OSS	100%	100%	100%	100%	100%	> 90%	⊙	→	100.0%	
<b>Aging of ERs Pending OSS Action</b>											
ERs Approved for Payment without Pre-Audit		159	158	183	266	264				192	
Opening Balance of Open T&E Cases		3	1	3	6	8				3	
T&E Cases Opened		1	6	3	4	6				4	
T&E Cases Closed		3	4	0	2	6				2	
Ending Balance of Open T&E Cases		1	3	6	8	8				5	
Open Cases Aged 0-3 Days		1	3	6	8	8				5	
Open Cases Aged 4-5 Days		0	0	0	0	0				0	
Open Cases Aged 6+ Days		0	0	0	0	0				0	
Avg. ERs Worked per SSA		26	27	29	16	16				25	
<b>Team KPIs</b>											
Avg time to pre-audit expense report (in days)	OSS	1.9	2.2	2.5	3.4	3.0	<3 Days	⊙	↓	80.00%	Month to Date Percentage = 80%



# SPECIAL THANKS

## Ohio Shared Services

Korrina Thomas

Tim Ogonek

Jennifer Snyder

Alex Roman

Jessica Gravely

Evan Jones

Helga Mattingly

Tina Pike

Judy Reid

Andy Wood

Pamela Allen

## The Ohio State University

Cheryl Dickerson



# FEEDBACK

What questions do you  
have for us?



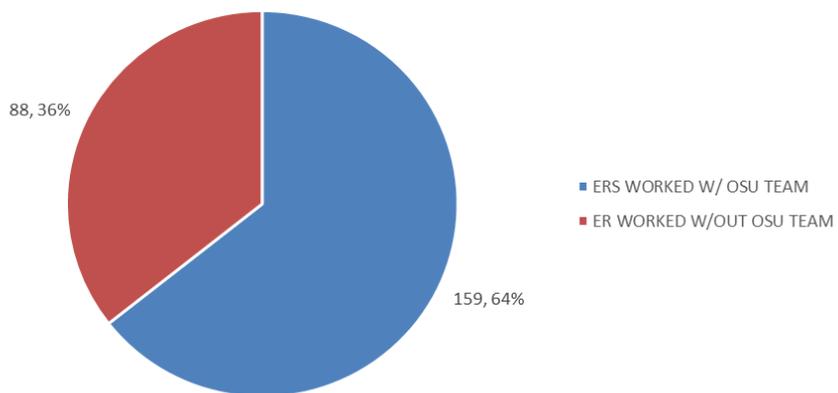
# APPENDIX



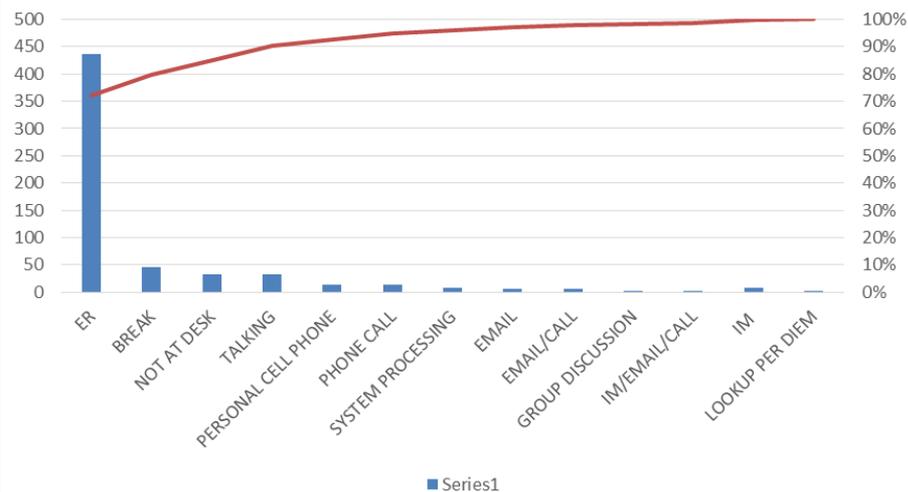


# TIME ALLOCATION STUDY

% OF ERS WORKED WHEN OSU TEAM PRESENT



ALLOCATION OF WORK





# ADDENDUM: UTILIZATION



## GOAL:

200 reports/day x 5 days/week = 1,000 reports/week

## CURRENT PERFORMANCE:

3 min/report x 1,000 reports/week = 3,000 min/week

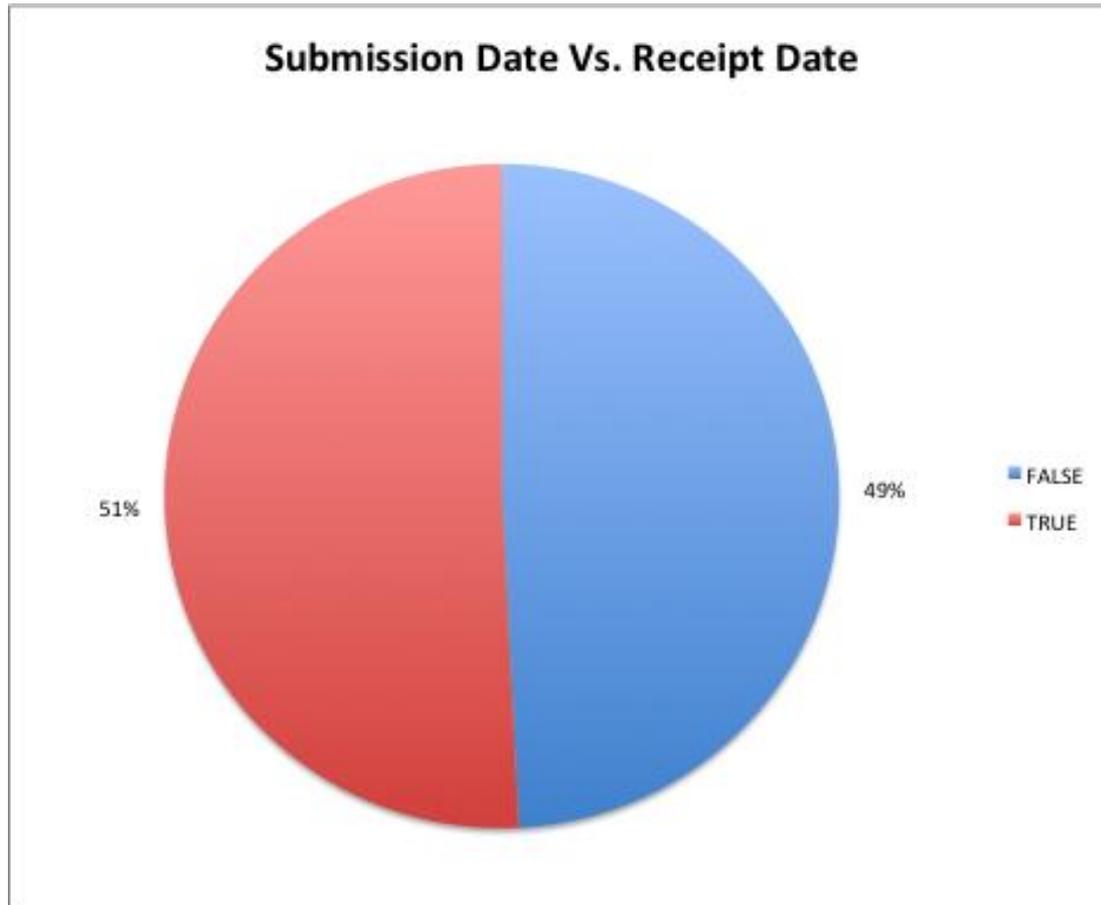
## TIME AVAILABLE:

5 people x 40 hours/week x 60 mins/hr = 12,000 mins/week

## UTILIZATION:

$3,000/12,000 = 25\%$

What are we missing? How do you use your time? What other tasks are being done?



Of the ERs that had received receipts, we determined that 49% of those receipts came in *after* the submission of the report.



## Productivity by DOW

