

Define

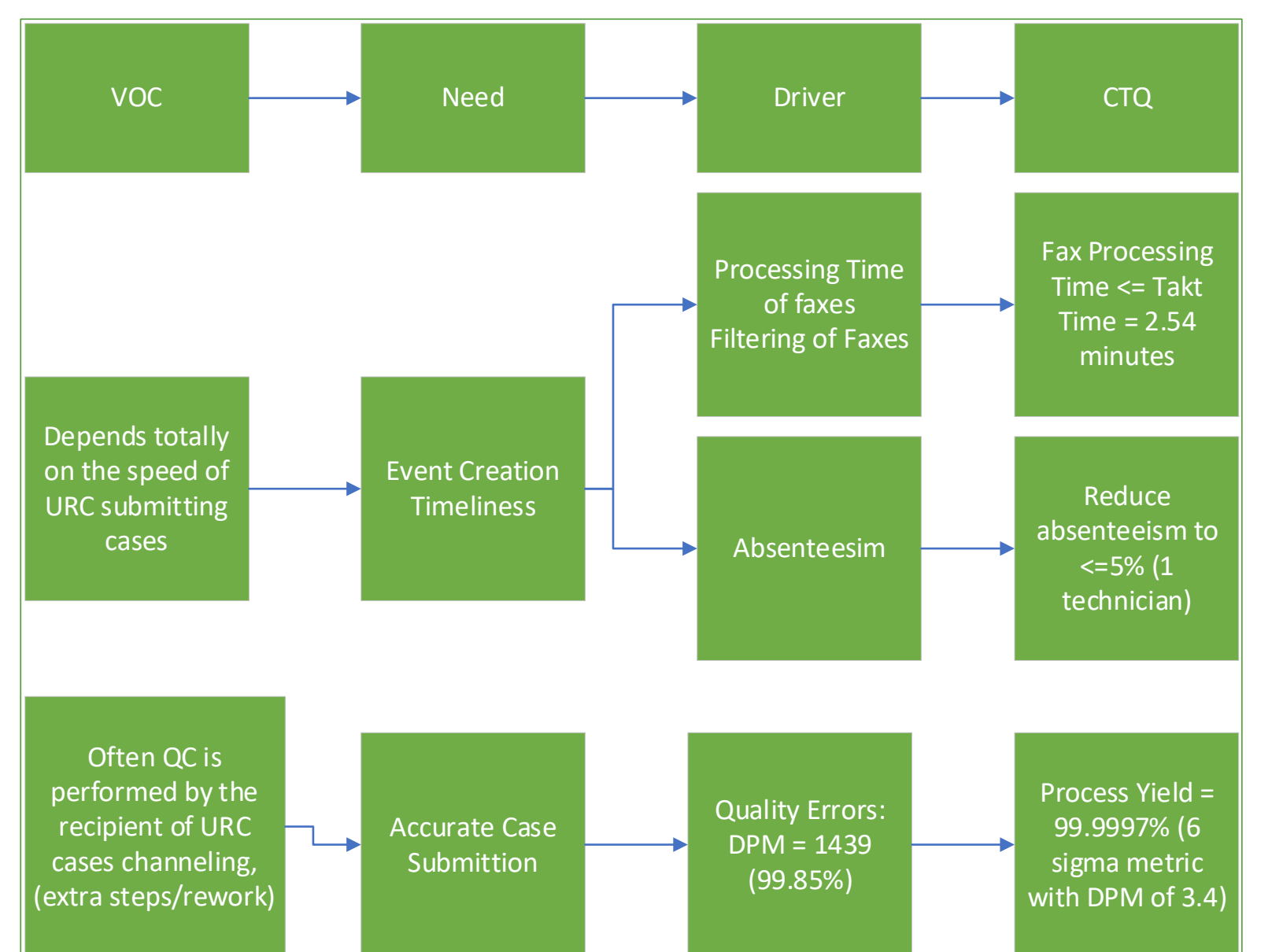
Problem Statement

By 2023, MCS received a 5-star rating in its Classicare business line. This has caused demand for URC to increase by 19% and continues to rise. To meet this growing demand, URC has implemented overtime. The current process cannot meet the growing demand. By implementing the DMAIC methodology, the aim is to increase the productivity of the process to satisfy the 19% increase in demand while maintaining a minimum quota of 100 cases per technician. The benefits of this project are to eliminate overtime hours that make up an annual expense of \$91,922 and optimize operations at URC to increase the efficiency of the department to continue providing excellent service to MCS members.

SIPOC

Supplier	Input	Process	Output	Customer
• Doctor • Medical Facilities (X-ray, MRI, CT, etc.) • Home Care • Medical Equipment Suppliers • Skilled Nursing Facilities	• Medical Order	• Receive Medical Order Through RightFax • Team Leader opens document and classifies medical order • Team leader distributes documents to folders in X • Technician access medical order inside folder in X • Technician opens documents & generates necessary case/documentation.	• Authorization Letter Provider • Authorization Letter Member • Internal case in X	• Provider Member • MCS

VOC & CTQ Tree



Based on the VOC and the CTQ Tree, the metrics to be used to establish quality are as follows:

- Fax Processing Time <= Takt Time = 2.43 minutes
- Absenteeism <= 5% (1 technician per shift)
- Process Yield = 99.97% (6sigma)

Stakeholder Analysis

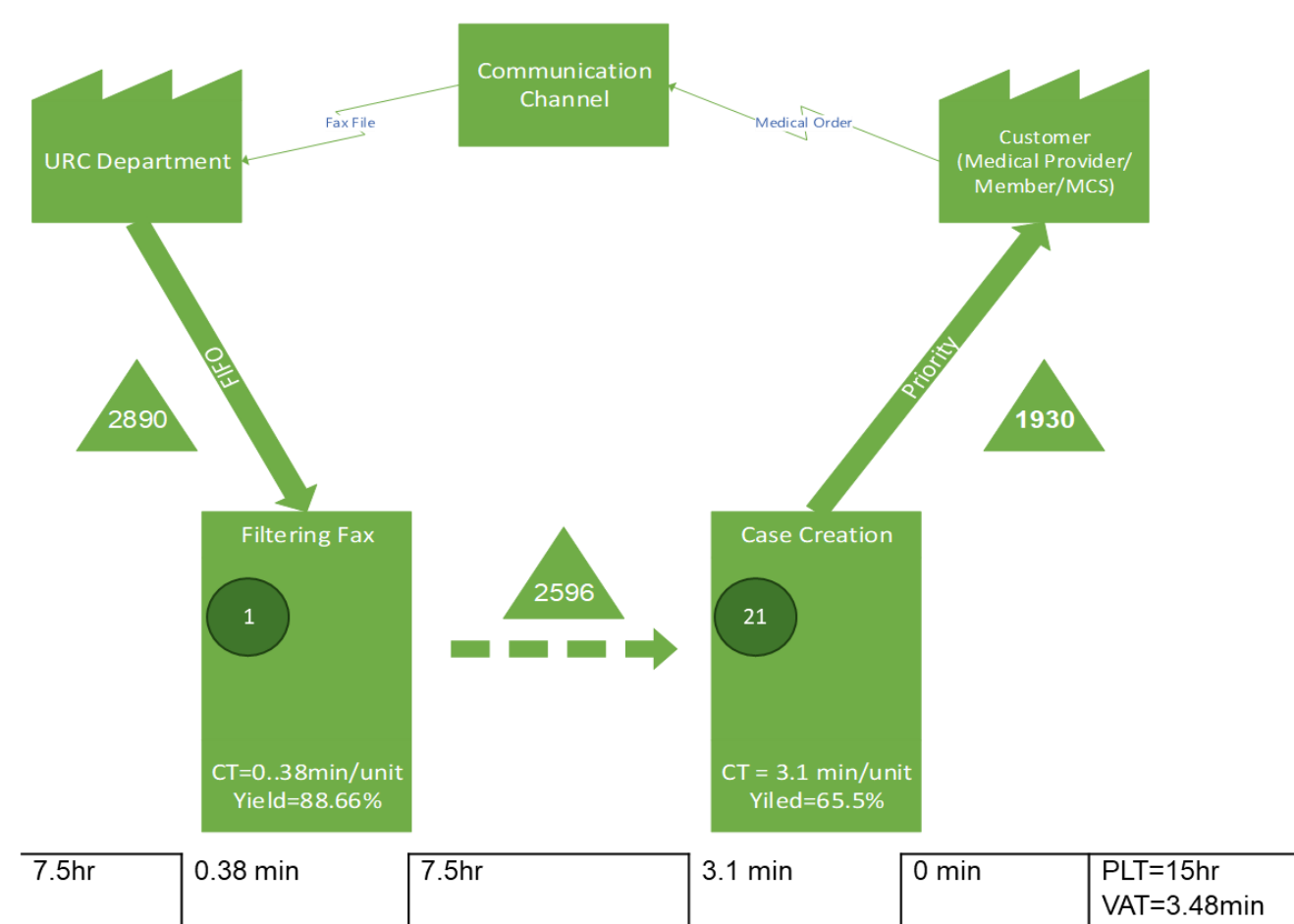
Stakeholder Matrix	
High	<p>Keep Satisfied: Clinical Operations Director: Priscila Medina Service Process Improvement Director IT: Rosana Rosario</p> <p>Manage Closely: Clinical Service Operational Supervisor: Nemar Torres</p>
Low	<p>Monitor: Clinical Services and Appeals Supervisor: Griselle Reyes</p> <p>Keep Informed: Clinical Operations Team Leaders.</p>
High	Low
Interest Level of Stakeholders	

Measure

Data Collection Plan

Variable	Type of Data	Units	Measure Method	Time	Personnel	Sample Size
Time of filtering in RightFax	Continuous	Minutes	Estopwatch (online stopwatch)	Jan 3 – Feb 15 2024	Students	163
Time of processing in X by URC technician	Continuous	Minutes	Estopwatch (online stopwatch)	Jan 3 – Feb 15 2024	Students	860
Absenteeism	Discrete	Technician	*Historical Data	Jan 1 -Dec 31 2023	Management	365
Demand Data	Discrete	Units	*Historical Data	Jan 1 -Dec 31 2023	Management	365
Errors	Discrete	Units	*Historical Data	Jan 1 -Dec 31 2023	Management	365

Value Stream Map (Current State)



Throughput Yield (Current State)

Yield for process of filtering faxes:
 $\frac{\text{Faxes Filtered} - \text{Duplicated Faxes}}{\text{Faxes Received}} = \frac{163 - 19}{163} = 0.8835 = 88.35\%$

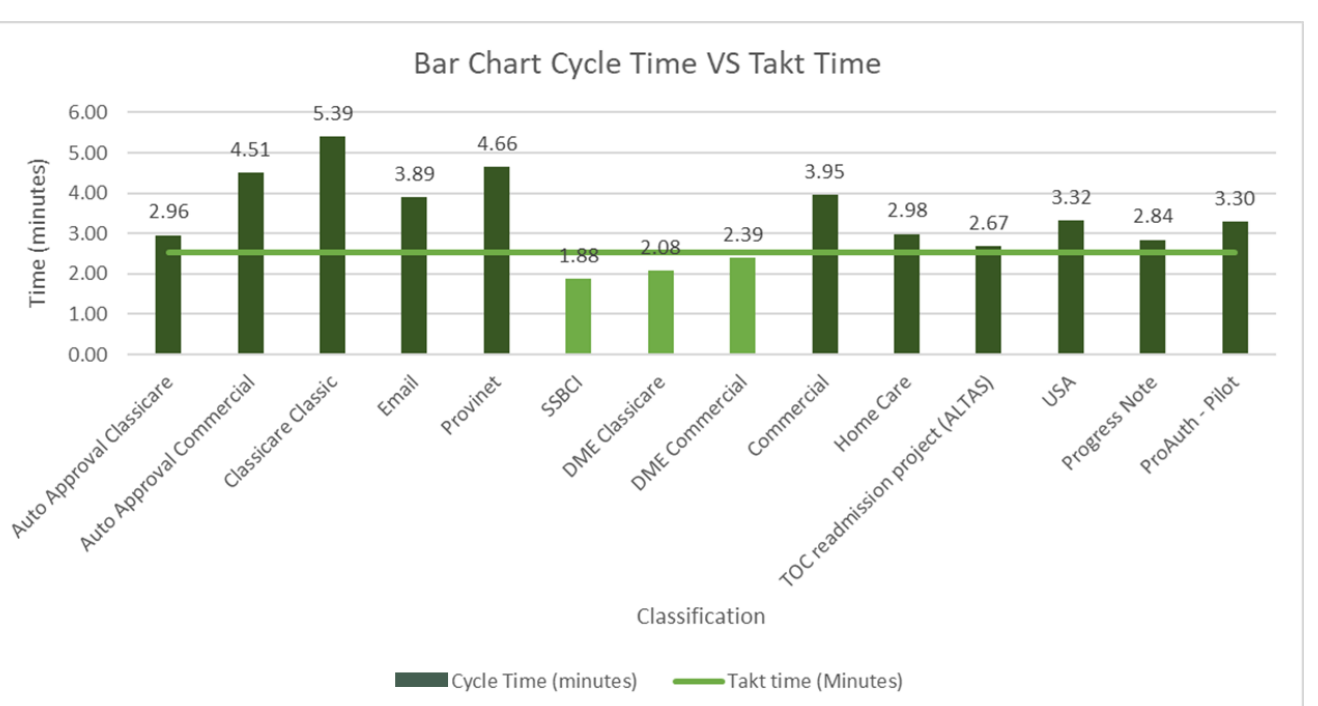
Yield for processing faxes in X:
 $\frac{\text{Faxes Processed}}{\text{Faxes Received} + \text{Faxes Pending}} = \frac{600277}{55255 + 361436} = 0.654830254 = 65.5\%$

Throughput yield for entire process:
 $0.8835 * 0.655 = 0.5787 = 57.87\%$

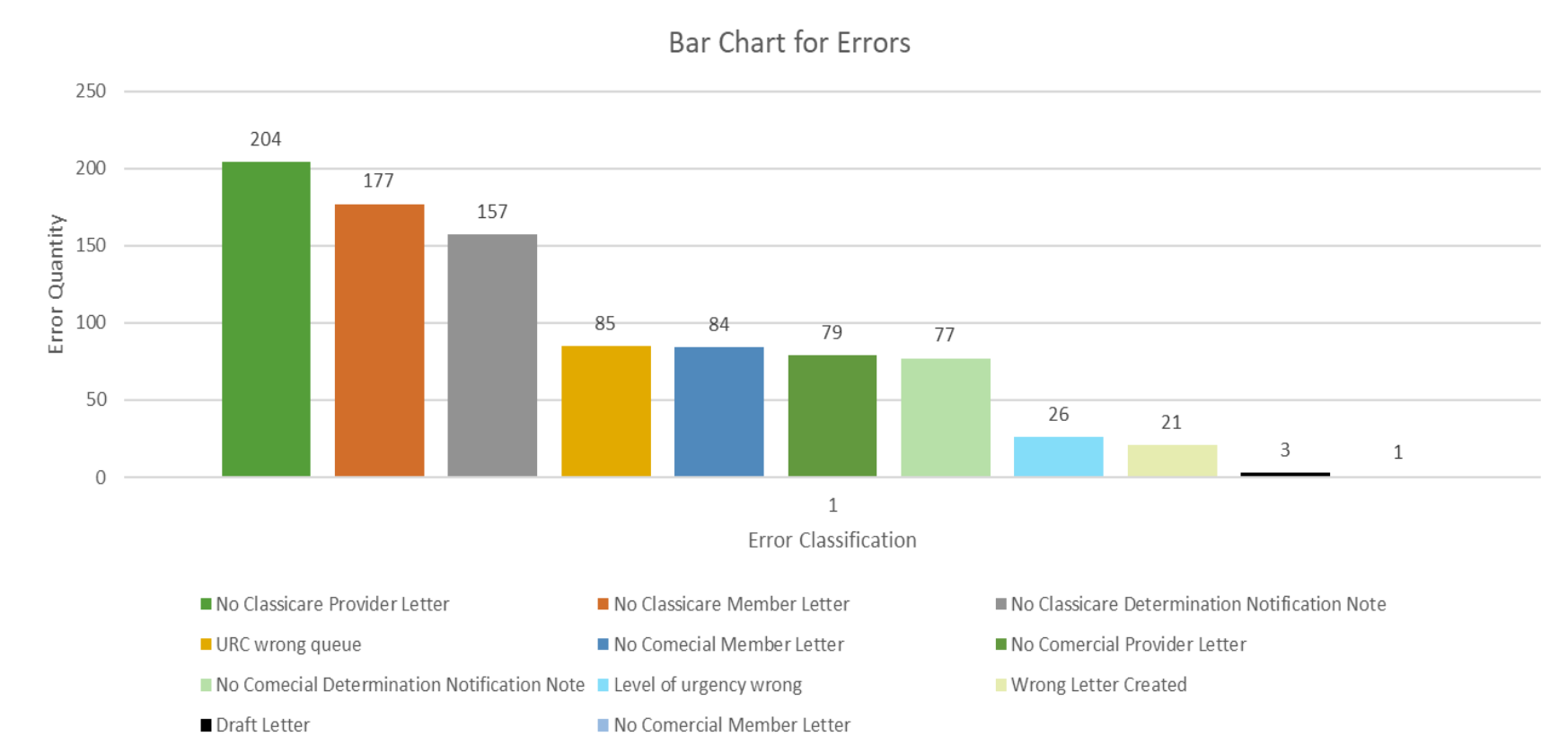
Capacity Analysis (Current State)

Total Technicians	21
Total Working Hours	7.5
Total Working Min	435
Allowance	16.5%
Total Working Min - All	363
Production Capacity / Tech	117
Production Capacity of URC per day	2461

Actual Process VS Specifications

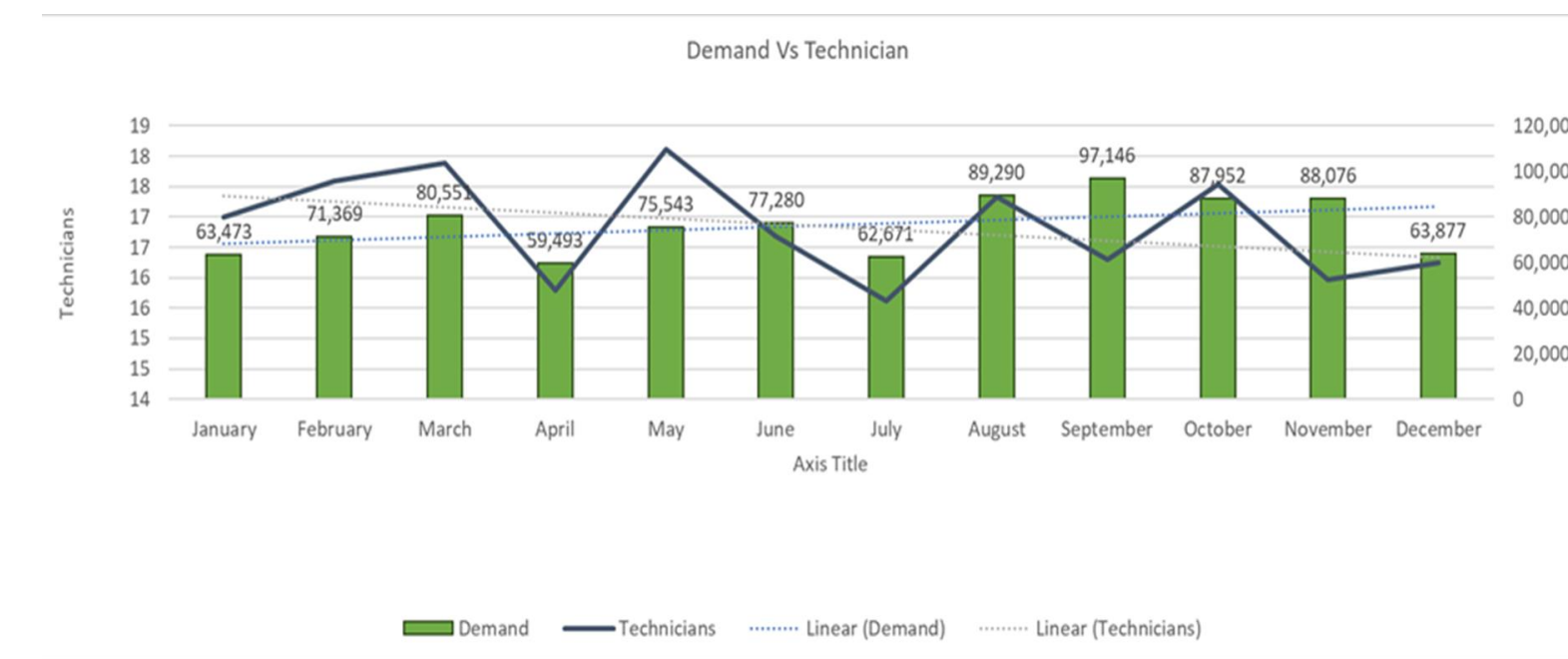


Errors (Current State)



Analyze

Demand VS Technicians Analysis

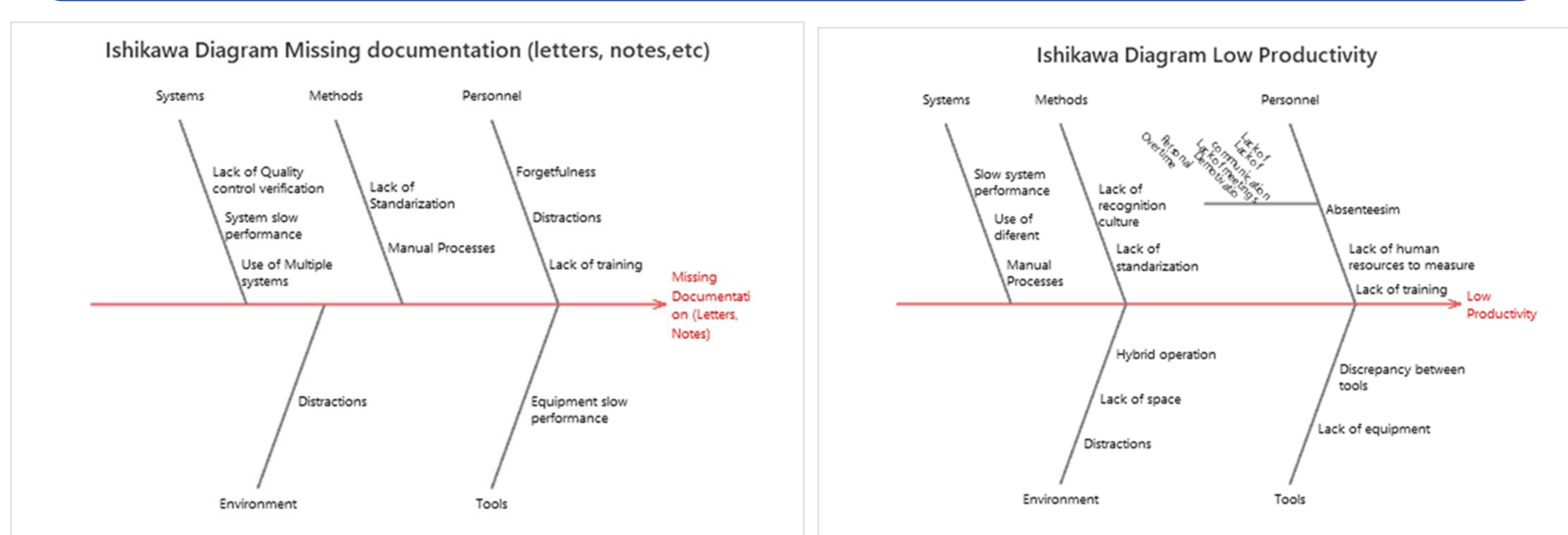


Comparing the demand per month to the average for technicians that worked per month, there is a trend; demand is increasing, but the number of resources working is decreasing.

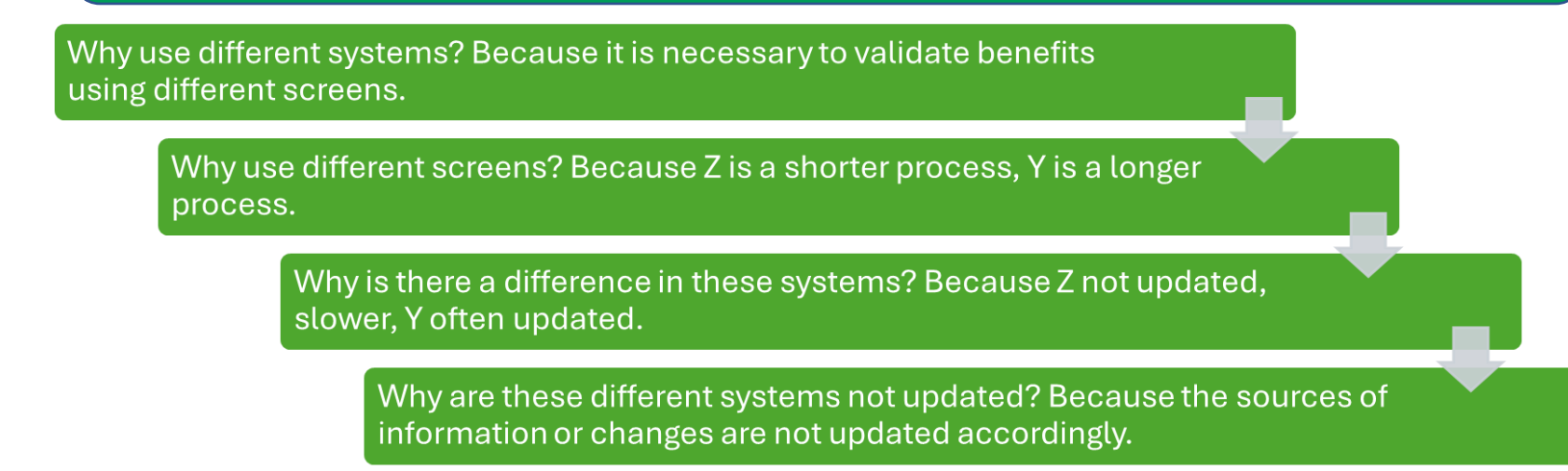
Lean Wastes AND NVA Analysis

Lean waste	Manufacturing	Service	Example in URC process
Defects	Product failure to meet customer expectations	Service failure to meet customer expectations	Cases that are submitted without providing letter confirmation to member/provider
Overproduction	Making more product than customer demand	Providing more services than the ones needed to satisfy demand	Databases slow performance increase processing time.
Waiting	Time spent waiting for next step in process to occur	Underutilization of people's talent, skills, and knowledge	Channeling from RightFax and email to X program
Unused talent	Underutilization of talent, skills, and knowledge	Wasted time, resources and cost unnecessarily moving product or materials	Channeling from RightFax and email to X program
Transportation	Wasted time, resources and cost unnecessarily moving product or materials	Wasted time, resources and cost unnecessarily moving document or customers through multiple departments or service points	Channeling from RightFax and email to X program
Inventory	Excess products and materials that aren't processed	Excess of data or physical documentation generated unnecessary for service execution	
Motion	Time and effort related to unnecessary movement of people	Time and effort related to unnecessary movement of people or equipment in service delivery	Use of multiple programs in the case processing and letter generation.
Extra-Processing	More work or higher quality than is required	Unnecessary or excessive steps that do not add value to the service or provider higher quality than necessary	Determination notes are generated with information that does not add value to the service. Reworking cases that have missing letter or determinations.

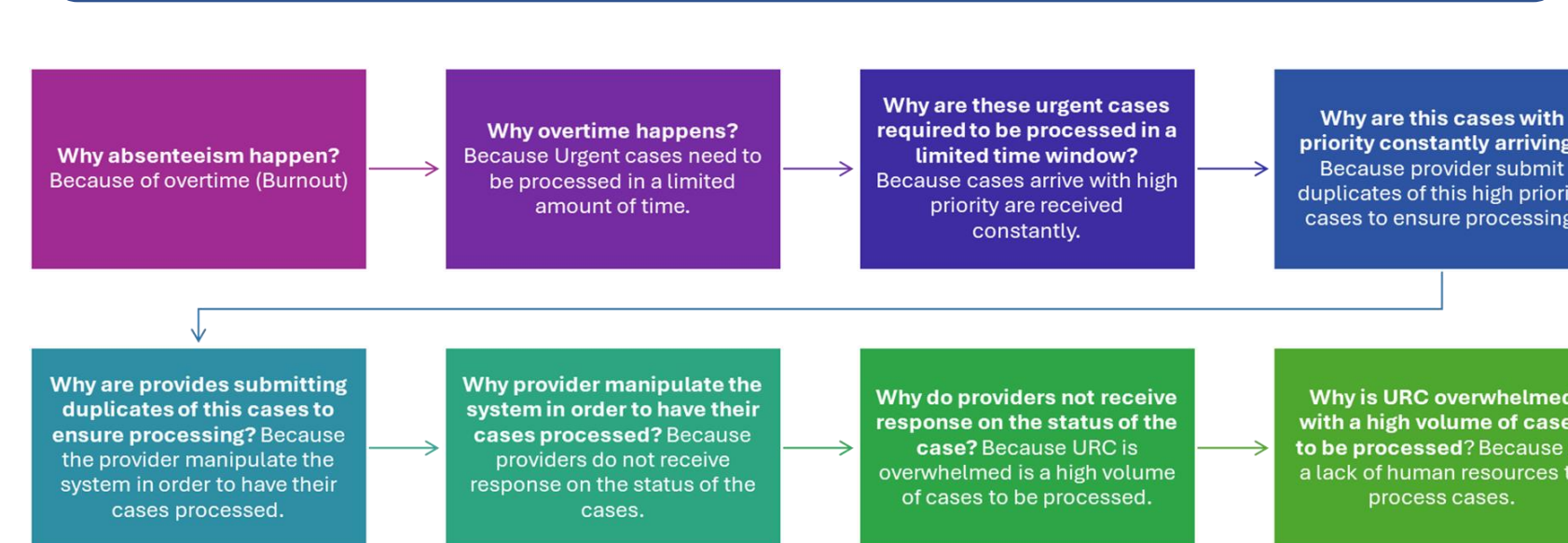
Ishikawa Diagrams



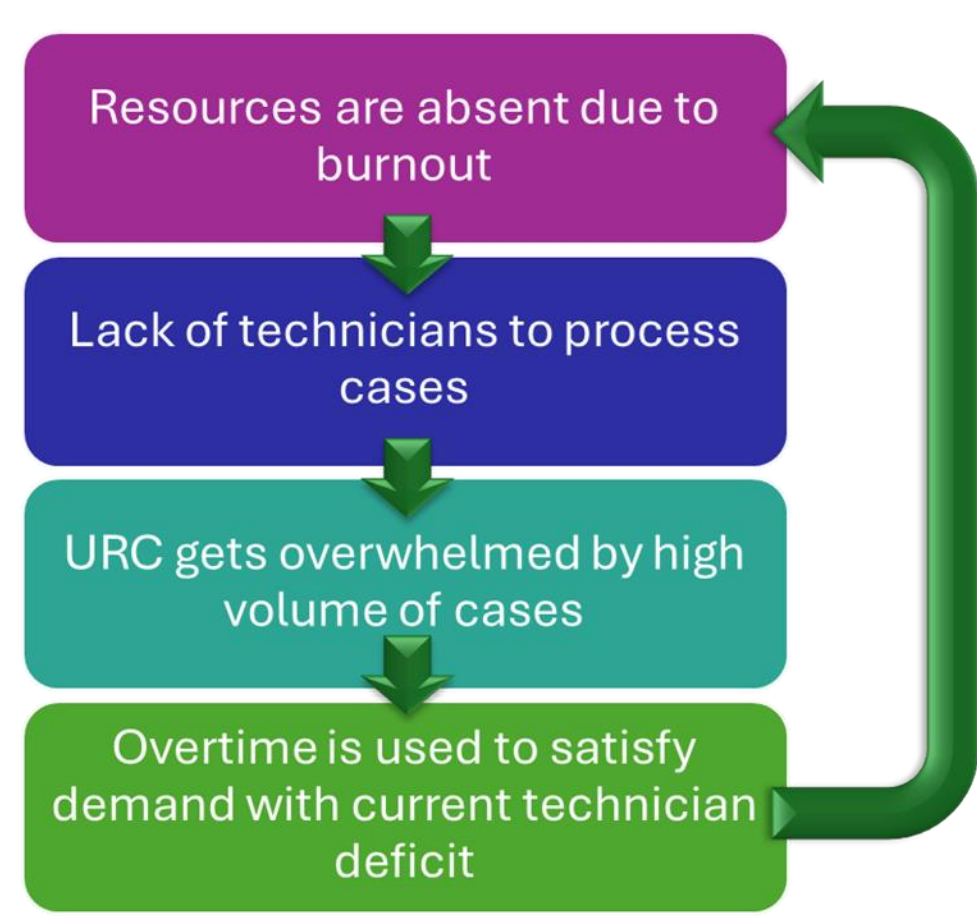
5 Why's: Use of Multiple Systems



5 Why's: Absenteeism



Absenteeism Cycle



Improve

Project Objectives for Improvement

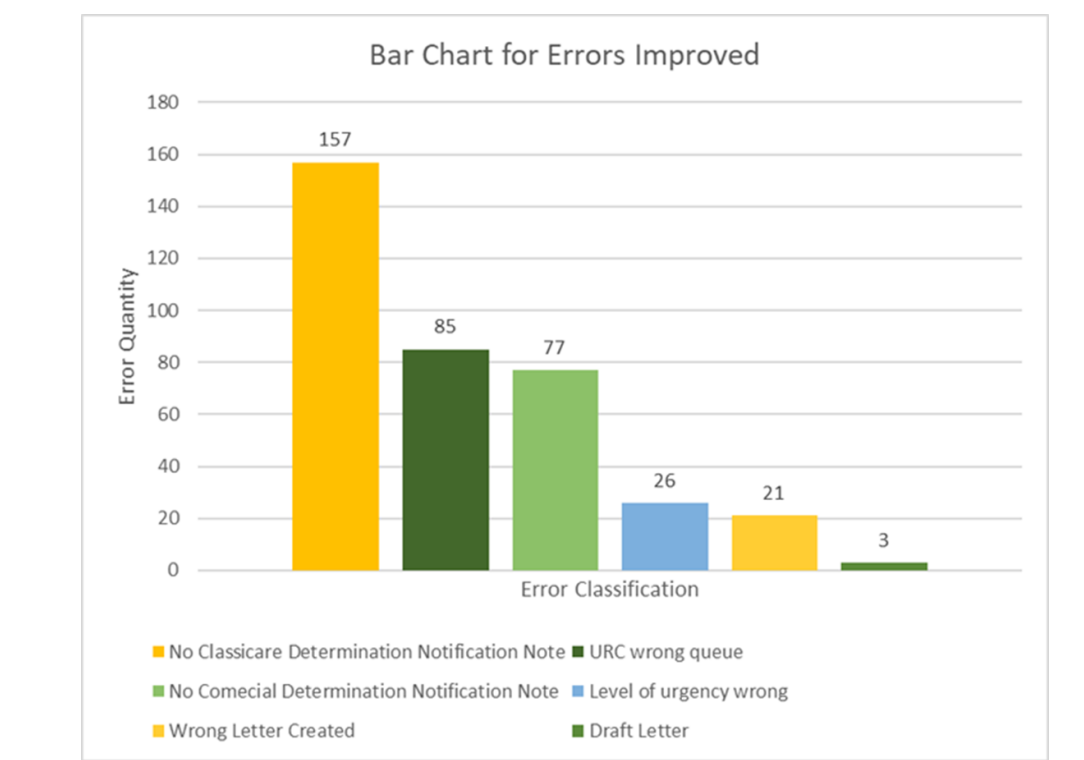
Current improvements can focus on the following aspects identified in the analyze phase to achieve the main objective:

- Decrease/eliminate defects.
- Increase headcount.
- Increase employees' accountability and engagement.

Potential Solutions

Main	Opportunity	Action Recommended
Missing Letter Notice to Providers and Members	Use multiple systems	Add option for letter confirmation. (Do not allow the case to be closed until all required letters are sent)
		Letter system automation (System automatically sends letter to corresponding parties)
		Reinforce use of appendix from shared folders to avoid the use of outdated documents.
Low Productivity	Absenteeism	Perform Daily Standup Meetings to increase resource accountability and engagement.
		Implement Staggered Shifts.
		Increase Headcount based on the results of the Capacity Analysis.

Errors (Improved State)



With this improvement, not only the 204 Classicare Provider Missing Letter 177 and Classicare Member Missing Letter would be mitigated, but it would also prevent the 79 Commercial Provider Missing Letter and the 84 Commercial Member Missing Letter Occurrences, leading to a reduction of 60% of all errors.

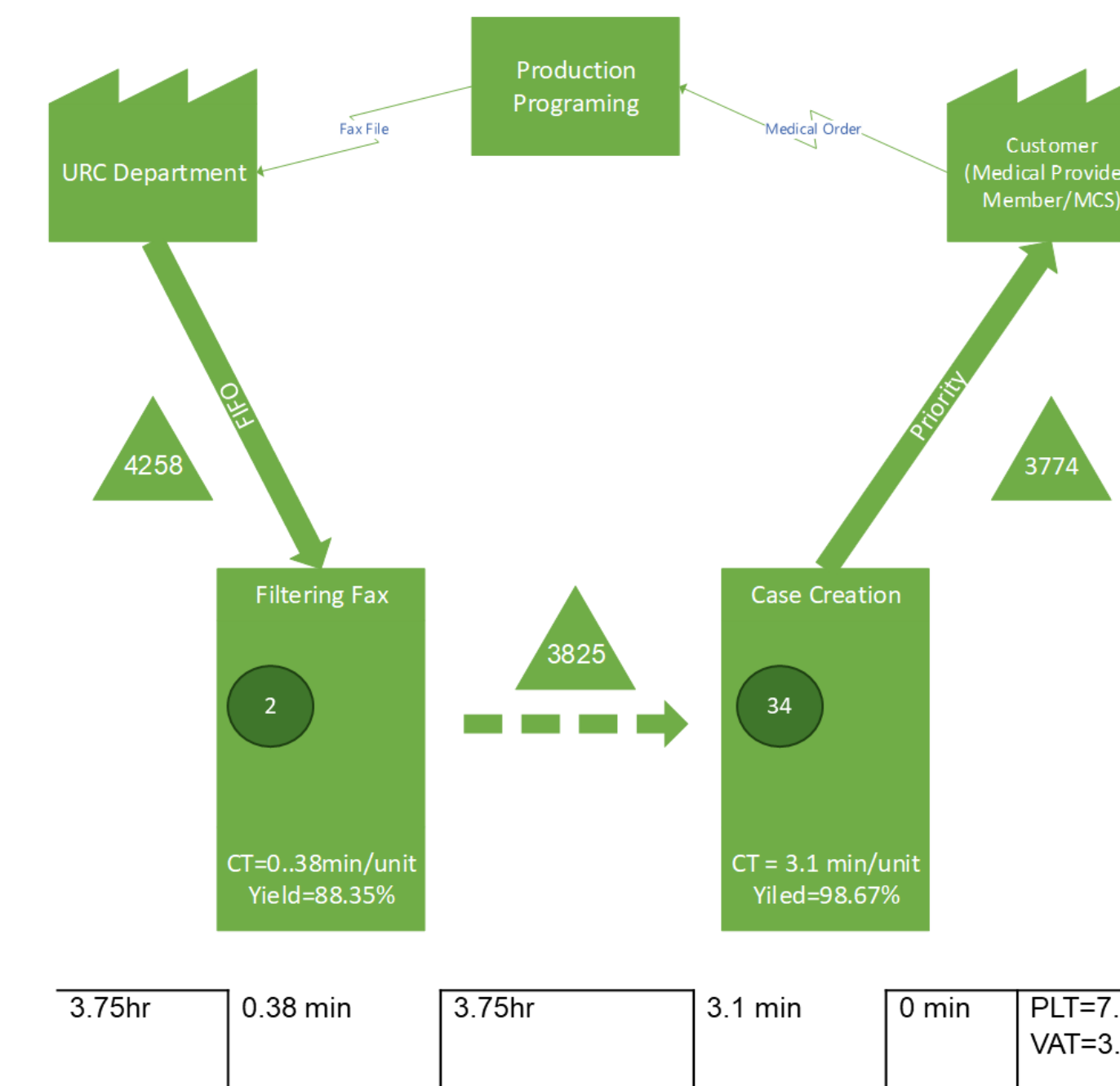
Capacity Analysis (Improved State)

Q1 Demand for 25th percentile		Q2 Demand for 50th percentile		Q3 Demand for 75th percentile	
Total Technicians	21	Total Technicians	21	Total Technicians	21
Total Working Hours	7.5	Total Working Hours	7.5	Total Working Hours	7.5
Total Working Min	435	Total Working Min	435	Total Working Min	435
Allowance	16%	Allowance	16%	Allowance	0
Total Working Min - All	363	Total Working Min - All	363	Total Working Min - All	363
Production Capacity / Tech	117	Production Capacity / Tech	117	Production Capacity / Tech	117
Production Capacity of URC per day (Current)	2462	Production Capacity of URC per day	2462	Production Capacity of URC per day	2462
Demand for 25th percentile (NO SUNDAY)	2410	Demand for 50th percentile (NO SUNDAY)	3261	Demand for 75th percentile (NO SUNDAY)	3774
Resources Needed	21	Resources Needed	28	Resources Needed	32
Resource Gap	0	Resource Gap	7	Resource Gap	11
Resources Needed with 5% absenteeism	23	Resources Needed with 5% absenteeism	30	Resources Needed with 5% absenteeism	34
Resource Gap	2	Resource Gap	9	Resource Gap	13
Gap Reduction	2	Gap Reduction	4	Gap Reduction	5

Throughput Yield (Improved State)

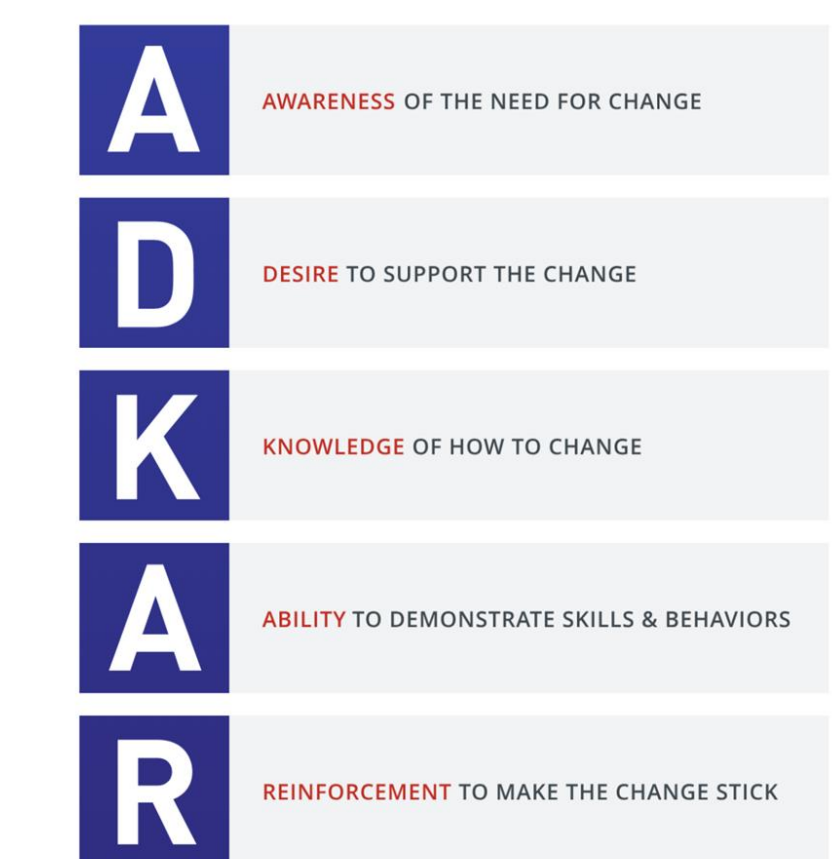
- Previous Throughput yield
 $0.8835 * 0.655 = 0.5787 = 57.87\%$
- The throughput yield of the improved process would be as following:
 $0.8835 * 0.9867 = 0.5787 = 87.18\%$

Value Stream Map (Improved State)

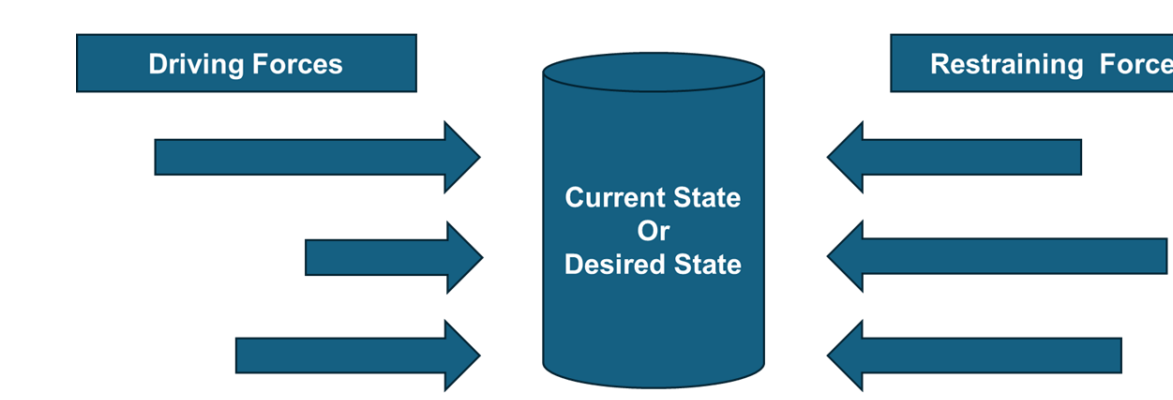


Control

Change Management (ADKAR)



Force Field Analysis Template



Improvement	Resources	Responsibility	Priority	Actions
Implement automated letter confirmation	Management	Supervisor/Program development department	High	• Educate technicians on new automated letter confirmation in X
Implement daily Stand-Up Meeting	Management/ Technicians	Team Supervisor	Leader/ High	• Establish Meeting Agenda 1. Process performance. 2. Process opportunities. 3. Process expectations. 4. Recognition (Empathy, Social)
Implement staggered shift	Management	Team Supervisor/ Department Director	Leader/ High	• Inform management and technicians about new staggered shift format benefits

Process Control Plan

Task	Tool	Responsibility	Priority	Frequency
Monitor staggered shift compliance	Attendance Program Report	Team Leader/Supervisor	High	Daily
Monitor headcount	Attendance Program Report and X	Team Leader/ Supervisor/Department Director	Mid	Weekly
Monitor Process Error	X Report	Supervisor	High	Daily
Monitor automated letter confirmation	X Report	Team Leader/Supervisor	Mid	Weekly (Until change effectiveness in validated)
Monitor Process Demand	X Report/RightFax	Team Leader/Supervisor	High	Daily
Monitor Appendixes	OneDrive/Cloud	Team Leader/Supervisor	High	As required

Financial Analysis

Hours OT 2023	\$90,966.00
Hours OT Lead	\$13,000.00
Hours OT excluding Lead	\$77,966.00
Total hours OT (only Saturday and Sunday)	4643
Salary / Tech estimated OT	\$16.79
Salary / Tech estimated	\$11.20

75th percentile	Overtime	Total Costs
Current State	19%	\$489,216
Absenteeism (21 techs)		\$119,514
Current State	38%	\$489,216
Absenteeism (21 techs)		\$239,028
Future State	19%	\$908,544
Absenteeism (39 techs)		\$0
Future State	5%	\$792,064
Absenteeism (34 techs)		\$0
Total		\$792,064

Conclusion

Objectives	Metric	Current Value	Improved Value
Satisfy increase in demand	Process Capacity (cases per day)	2462	3774 (53.29% increase)
Decrease absenteeism	Absenteeism (%)	19%	5% (73% decrease)
Decrease overtime costs	Overtime cost (\$)	\$119,514	\$0 (100% decrease)
Decrease Process Errors	Errors (units)	914	370 (60% decrease)