

**SUAN SUNANDHA
RAJABHAT UNIVERSITY**

Week 9

A 3 Report



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A3 Reports



A3 Reports are one-page reports used for documenting the necessary information needed for progress reporting and decision-making.

Sample A3 Report

← Plan → ← Do, Check, Act →

Theme: Flawed Refrigerant Control Processes (Service Department)

Background

- Refrigerant Cost is The Second Single Highest Annual Cost To Labor
- Result in Excessive & Growing Annual Inventory Adjustments
- Additional Tech. Admin. Manager Labor
- State has EPA, ODF Requirements (No Federal Risk From EPA)
- All Risk With Public Image

Current Condition

- Rating Refrigerant Inventory at 118,458 Lbs.
- Current System For Auditing Refrigerant On Van Only Used In 3 Branches
- Only 78 Techs out of 417 Audited = 19%
- Current Audit Takes 240 Minutes / Van
- Van Tracking Process Distributed With Minimal Site Training For Techs, Admins & Managers
- Single Van Audit Shows Errors Of Over 300 Lbs.
- Inconsistent System Data

Target Condition / Measurable Objectives

- Refrigerant Adjustments - Write Offs Reduced to 0%
- 100% Of Branches Performing Quarterly Audits On All Service Inventory Sites
- Reduced Current Condition Audit Process To 104 Minutes

Root Cause & Gap Analysis

Countermeasures / Implementation Plan

Task	Accountable	Due Date	% Complete	Complete Date
Improved Technician's Refrigerant Tracking form that includes directions	Hugh	04/17/09	100%	04/17/09
Surveys done with Service Managers - cycle counting/auditing	Ramona/Shawn/Bryan	04/20/09	100%	04/20/09
Cycle count of refrigerant on 3 vans - using old and new form	London/Ramona	04/21/09	100%	04/21/09
Surveys done with Service Admins/Dispatch on current auditing process & forms	Ramona	04/24/09	100%	04/24/09
Technician Visual Aide on Refrigerant types, cylinder or gross weight, charge orientation, Refrigerant Safety, Disposal/Weighting Procedures	Bryan/Hugh/Shawn	05/07/09	100%	05/07/09
Refrigerant Control and Tracking section in the Tech Guide	Bryan	05/07/09	100%	05/07/09
Selected Branch in each Region for Pilot Tracking Program approved by Regional Director	A-Team	05/01/09	100%	05/01/09
Revised Current Existing Source Pallet Refrigerant Report for Auditing Purpose	IT / Ramona	05/08/09	100%	05/08/09
Created Refrigerant Audit Form per Region	Ramona / Hugh	05/15/09	100%	05/15/09
Select Admins for each Region for tracking and auditing function	Shawn/Ramona	05/20/09	100%	05/20/09
Created Detailed Refrigerant Control Procedures	Ramona	05/21/09	100%	05/21/09
Determine Owner of Refrigerant Tracking Process	TBD / owner	05/21/09	100%	05/21/09
Training Program for Service Managers and Techs for cycle count - Go To-Meeting	A-Team	05/27/09	100%	05/27/09
Training Program for Admins for Auditing Process - Go-To-Meeting	A-Team	05/27/09	100%	05/27/09
1st Phase Admins in Pilot Program 2nd Phase - all remaining admins	A-Team	05/27/09	100%	05/27/09
Individual Branch Performance Score Card for Refrigerant of Write-Offs	Shawn	05/01/09	100%	05/01/09
Run Pilot Program for 3 months - track progress, reports to Branches/Branches - start 6-1-09	J.A-Team member	09/01/09	100%	09/01/09
Company Wide Implementation	TBD / owner	09/28/09	100%	09/28/09
Exception Reports for Managers/Admins - 1) >150W on trucks and Negative Balances 2) > 5 per LB. discrepancy on PO's per Month 3) > 20% Purchases of Refrigerant from Hand Held to eliminate 80% PO/Vendor/Admins error => cycle count.	IT / Shawn/Ramona	07/01/09	100%	07/01/09

Effect Confirmation

Task	Accountability	Frequency/Due Date
Quarterly monitoring and adjustment	TBD - Owner	Through 10-31-2009
Annual audit of all end of Year plan - to 3%	Regional Director	04-30-2010
Branch audit compliance from 20% to 100%	Regional Director	End 03-2010
Technician compliance from 19% to 100%	Service Manager	End 03-2010
Audit accuracy from 0% to 95%	TBD - Owner	End 03-2010
Process monitoring	TBD - Owner	03-31-2010

Follow-up Actions

Task	Accountability	Frequency
Monitoring all processes and monitoring variables	TBD - Owner	Quarterly
Update Metrics for Branch Score Card	TBD - Owner	Quarterly

Prepared By: Jess Fxitz Invoice Creation Lead Time Improvement - A3 Report January 28, 2018

Background
The time between product delivery and invoicing our customers averages 1405 days with a max of 25 days. Our customers pay their invoices on time (<30days) 99.95% of the time. The invoicing process has, on average, \$22.3 million in invoices in process.

Current Situation

Analysis

Implementation Plan

#	Description	Week								Who	% Comp
		1	2	3	4	5	6	7	8		
1	Process design									MK	100%
2	Simulation									MK	100%
3	Capital approval									DH	100%
4	Customer Input									GF	100%
5	Set up EDI									GF	100%
6	Pilot Runs									MK	80%
7	Launch									TJ	50%

Follow Up

- Include section in next 6 customer surveys to determine any negative impact; MK, 03/01.
- Review back-up procedures with IS to ensure data continuity; DH, 03/01.

Goal

Results Report



A3 Reports simplify project reporting because they pull from otherwise numerous, detailed progress reports and extensive background analyses. A3s condense the information to a single page and visually communicate to the reader using graphs, charts, and succinct bullet points.

Also referred to as "one-pagers", the A3 Report got its name from Toyota Motor Company. "A3" refers to the metric paper size that the report is produced on (equivalent to a paper size of 11 inches x 17 inches).

A3

11.7 x 16.5 in
29.7 x 42 cm
297 x 420 mm

Report Composition



A3 One-Page Reports typically include:

- **Background** – A brief description of the problem, highlighting the importance to the organization and the measures used.
- **Current Situation** – Visual depictions of the problem under consideration.
- **Analysis** – The analysis performed to determine root cause(s).
- **Goal** – A visual depiction of what the situation would need to be so that the problem did not occur.

- **Recommendations** – The solution that will be (or has been) implemented.
- **Implementation Plan** – Tasks, start dates, duration, responsibilities, and completion status (this is optional when the A3 Report is used as a progress tracking report).

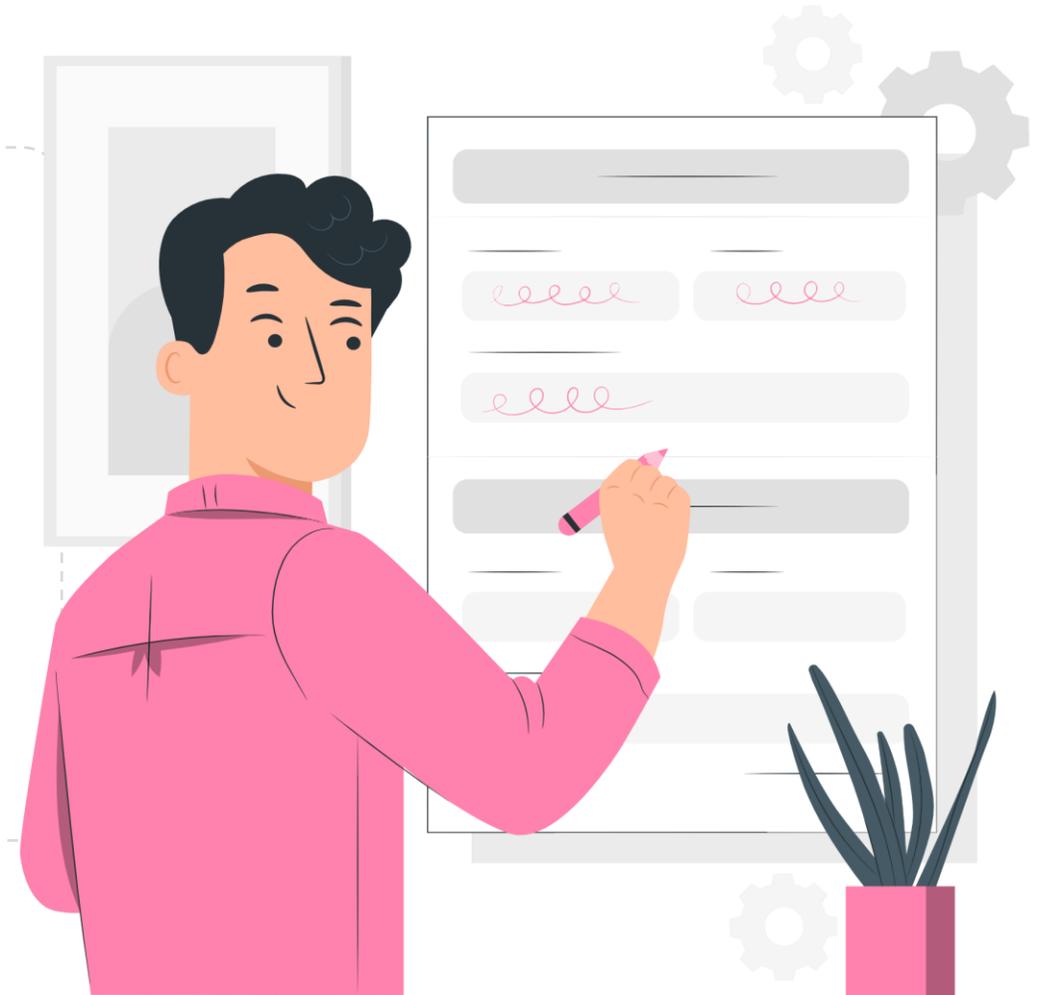


- **Follow Up** – Post-implementation tasks to ensure solution benefits are maintained.
- **Results Report** – Charted progress to plan with implementation and measures (this report is also optional when the A3 Report is used as a progress tracking report).



An A3 Report is meant to identify and communicate the critical project information and to facilitate decision-making.

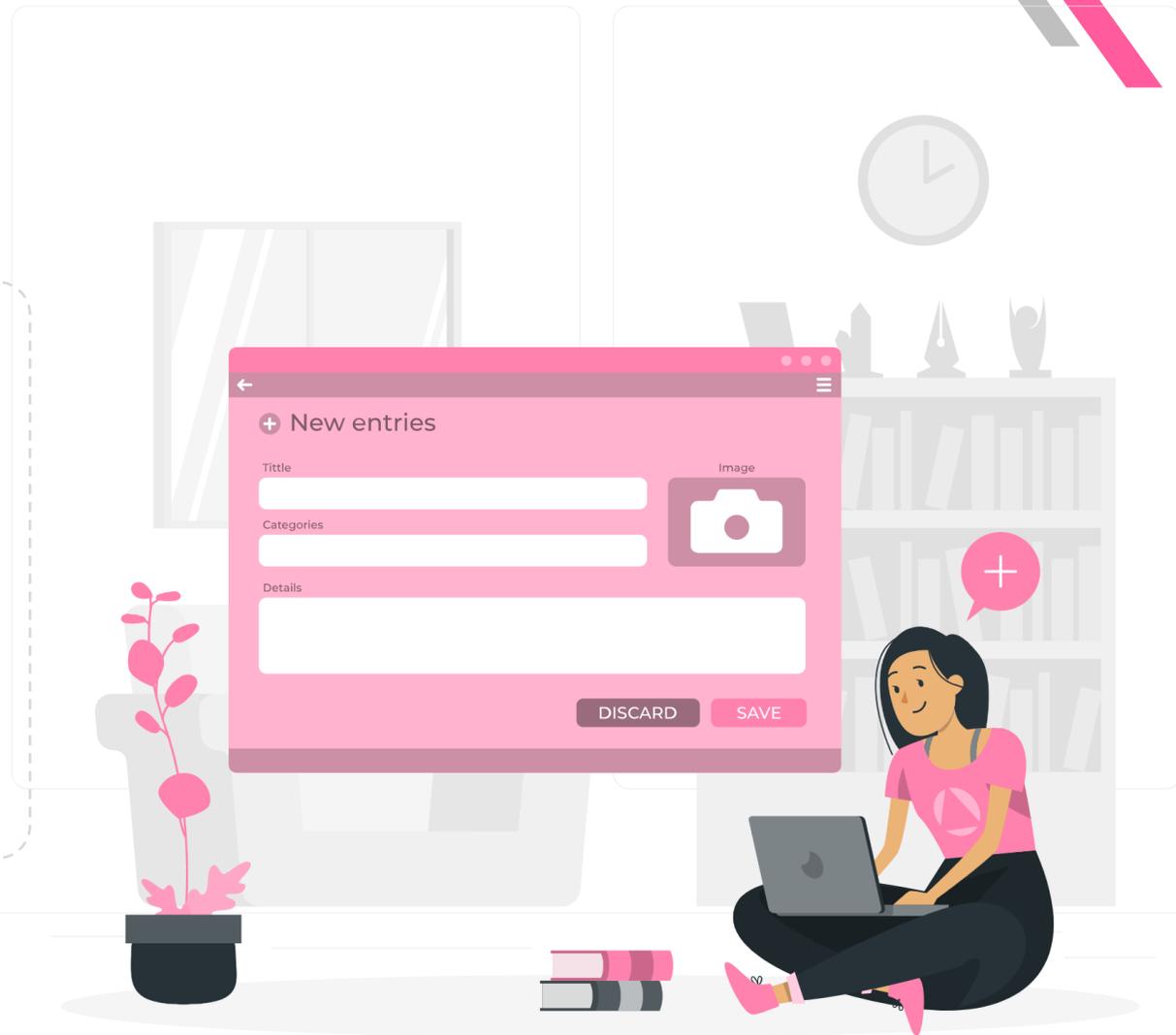
This report should easily fit on one page. It can be characterized as a Lean tool best suited for solving relatively short-duration Kaizen improvement activities. It may not be as useful in a DMAIC environment or for more complex projects.



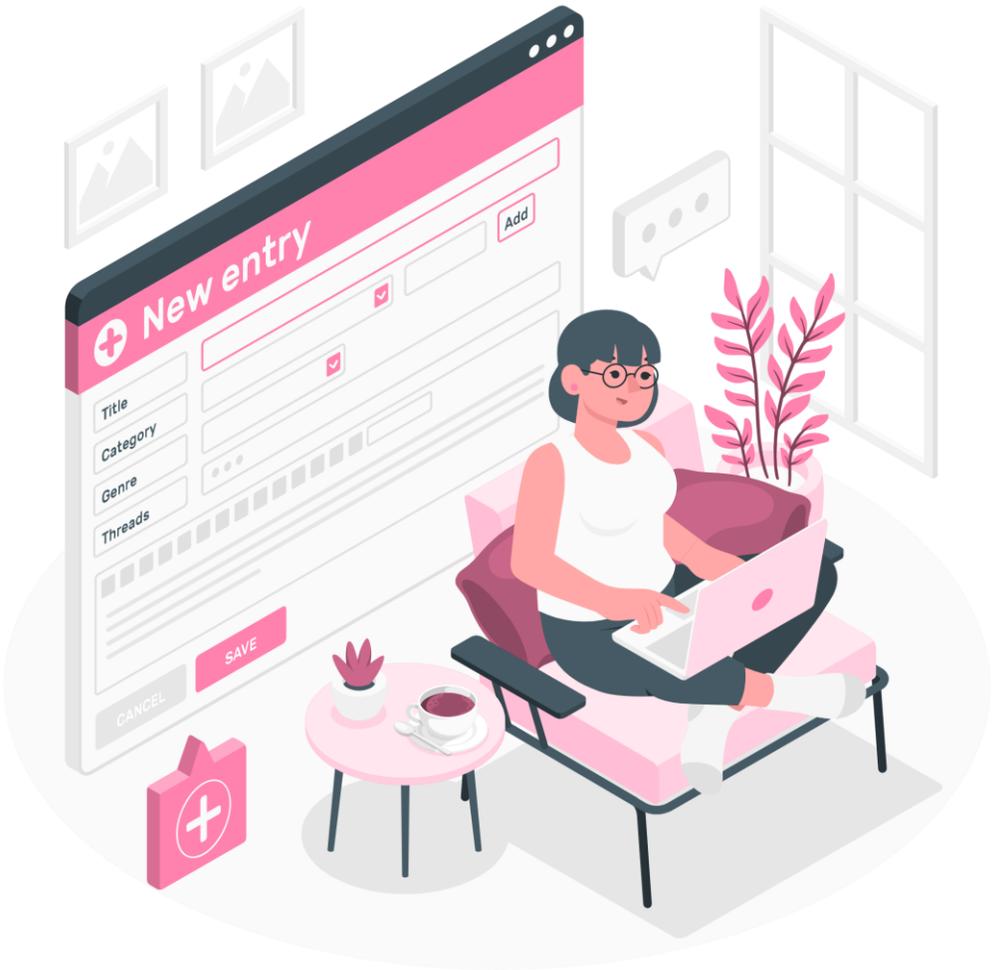
Webcast: A3 Reports: Polishing the Elevator Speech

Tor Chamberlain, Engineering Manager – Global Elastics, Clopay

"So, how's your project going? Hey, I only have 10 minutes, so can you just give me a quick update? No need to spend the time on the detail, just hit the highlights..."



Sound familiar? Maybe it's time for you to use the A3 Report, a Lean tool meant to identify and communicate the critical project information and to facilitate decision-making. The A3 has been widely adopted for use in toll gate project reviews, however, expanding its functionality beyond that realm and getting Belts to internalize 'A3 thinking' can be a formidable challenge.



Join us for a free, one-hour Webcast led by Clopay's Tor Chamberlain on how his organization has made great strides in communication and transparency using the A3 Report. There's nothing scary about A3 Reports!

In this session, the following key points will be covered:

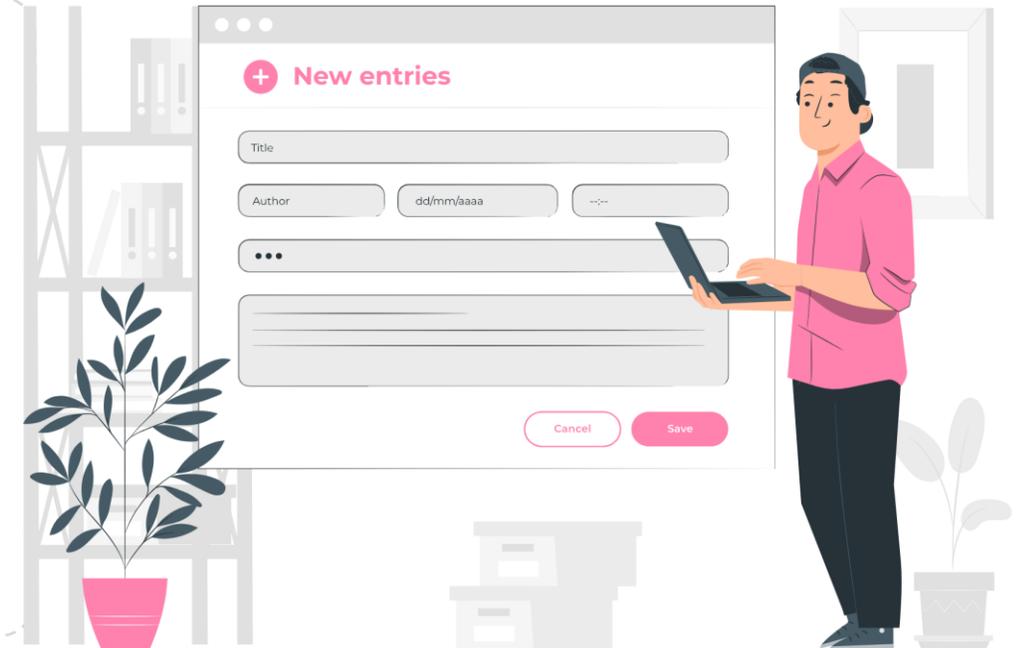


- Types of projects most suitable for A3s: short-duration Kaizen activities and/or complex DMAIC projects
- Use of A3 methodology to communicate effectively to different levels in the organization
- Use of A3 methodology to identify and track LSS projects
- How to coach A3 thinking

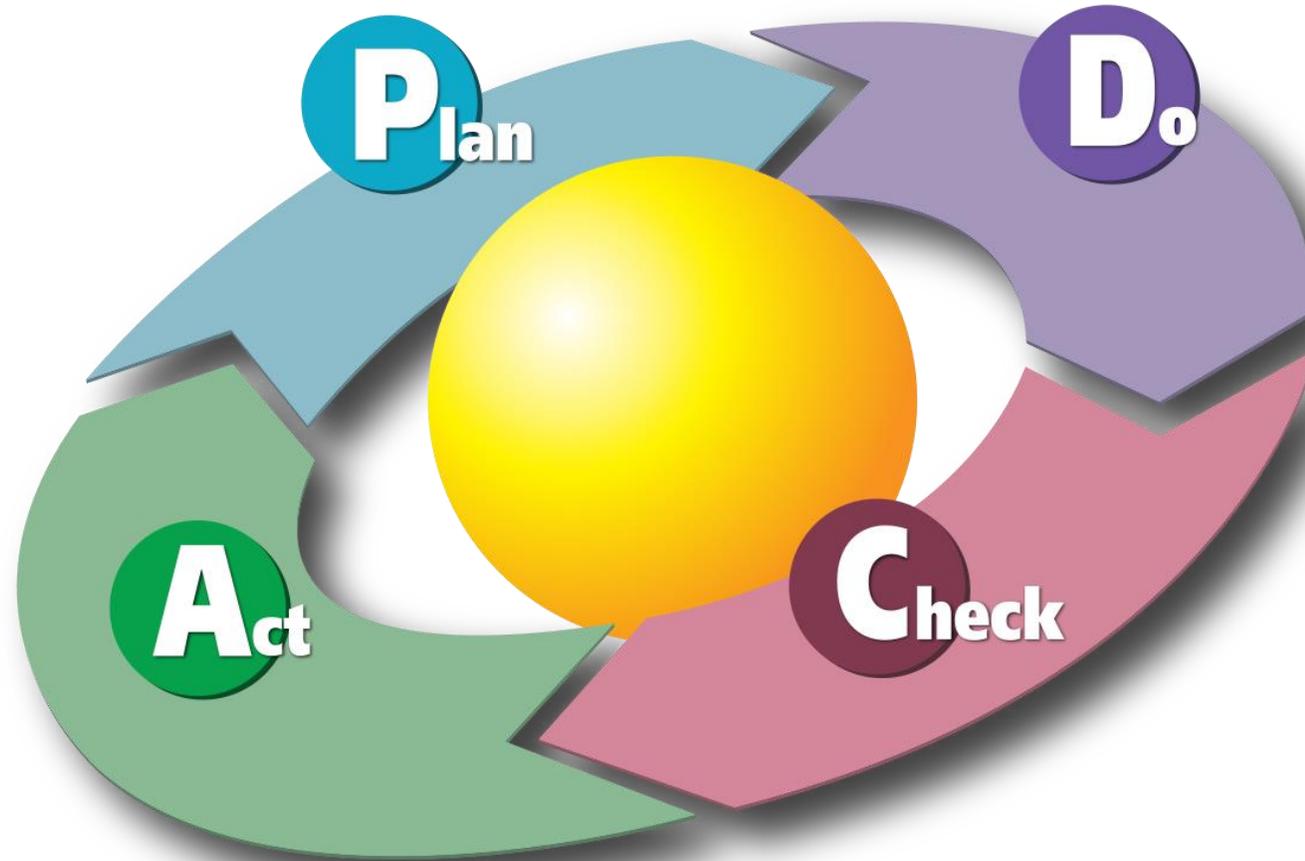
A3 Problem Solving



This is an approach to continuous improvement that simply refers to an over-sized piece of paper, used to plan and organize projects in order to help the business improve.



The steps in the A3 approach are similar to that of the PDCA (plan–do–check–act) cycle.



This is very similar to the Joiner 7-step process.

A3 Problem Solving Template

1. Problem

2. Current Condition

3. Goals and Targets for desired condition

4. Root Cause Analysis

5. Possible Counter measures and Plan

Counter measure	Impact on Target
1.	
2.	
3.	
4.	

6. Check results

7. Follow up and Review



The steps are:

1

- Identify the problem or opportunity

2

- Understand the current condition

3

- Set goals and targets for the state you wish to be in

4

- Perform Root Cause analysis

5

- List possible countermeasures and Plan

6

- Check results to see if the desired effect has occurred

7

- Follow up and review the work standard

8

- The layout of these steps on the A3 piece of paper can be seen below

In order for this tool to be successful, it is important that it is supported by an organization that has a lean approach to quality management.



- The main goals of this tool are to provide a visual structure for problem-solving, increase the communication across departments and to record any proposed plans to the systems.
- As this continuous Improvement tool is constrained to one page, it can be effective in quickly and simply reporting all of the important information.

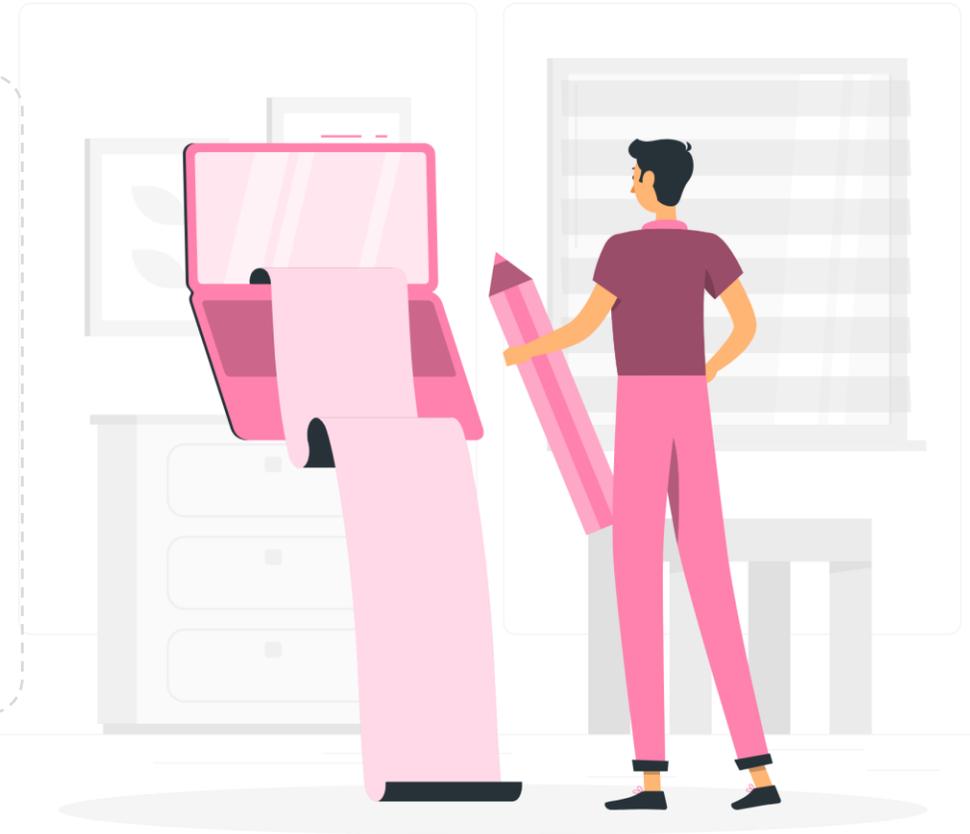


This report will help the employees adopt a problem solving and continuous improvement mindset, as it will simply display the problem at hand, and how this can actually be viewed as an opportunity, not a blockage.

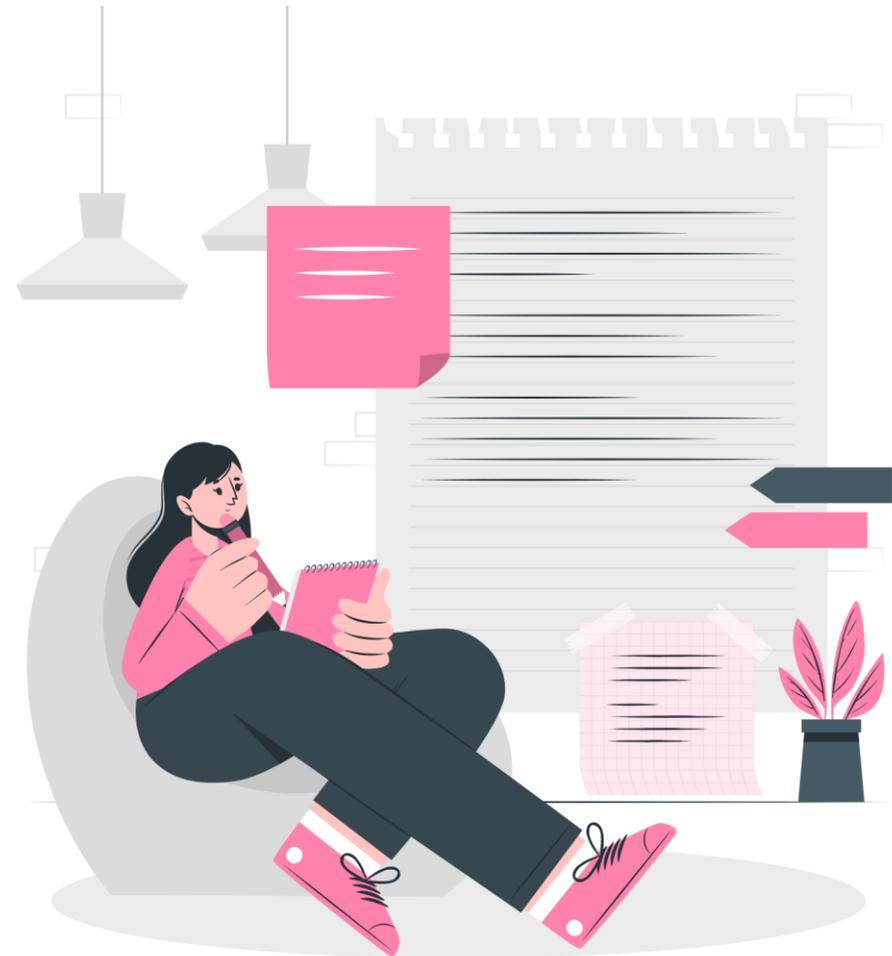
lean management



Lean management (also known as lean production or lean manufacturing) is an approach to management that aims to reduce waste from every step of the process without sacrificing productivity or value.



The important factors that drive improvement under a lean program are partnering with suppliers and managing customer demand.



The 8 wastes of lean



8 wastes of lean:

The eight types of process obstacles that get in the way of providing value to a customer

Defects:



Imperfection or shortcomings on a product or service caused by rework, scrap or incorrect information

Overproduction:



Producing more than needed of a product, commodity or substance, resulting in waste

Waiting



Long wait time for one step in process to be finished prior to next one starting

Non-utilized talent:



Organisations may have employees who could bring a lot of value to a process or service, but are not used

Transportation:



Waste created by products or materials unnecessarily moving around

Inventory:



Waste created by a surplus of products or materials being stored and not processed

Motion:



Unneeded movement, whether by employees, or machines that does not add value to the process

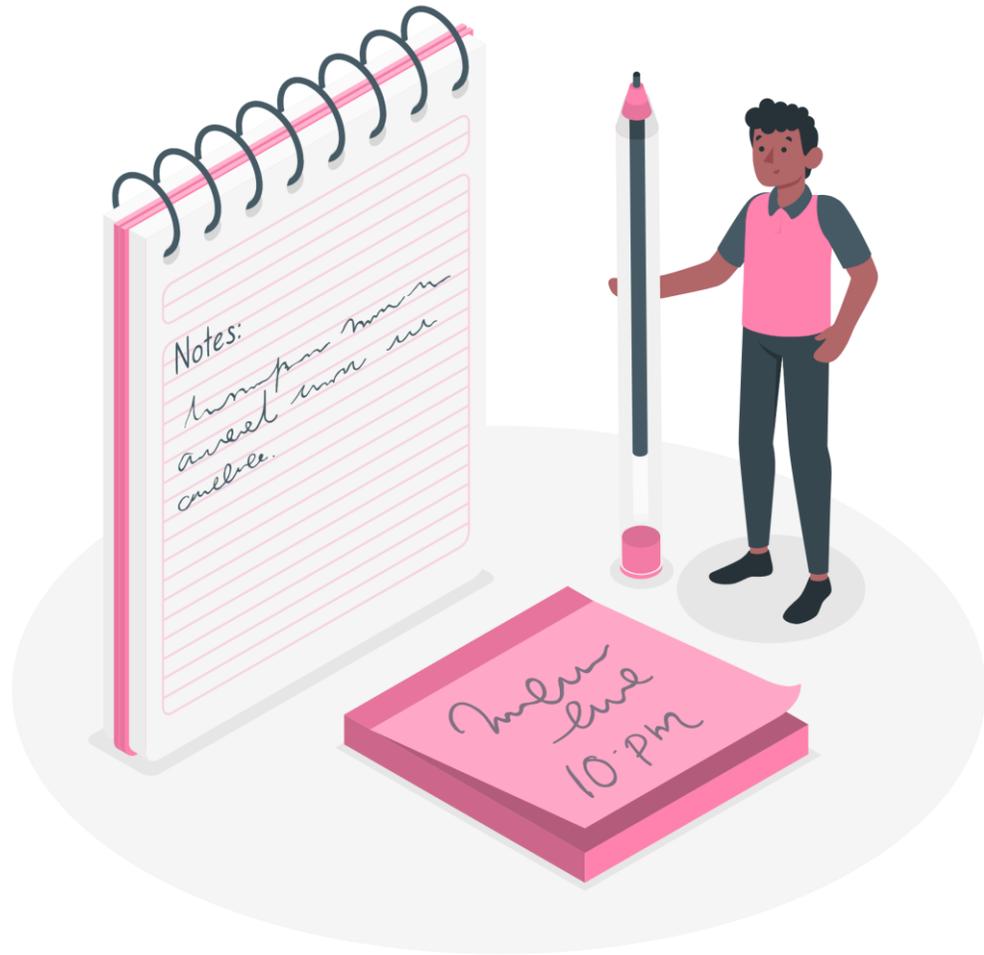
Extra Processing:



Any activity that is not necessary to the functioning of a product or service (or required by the customer)

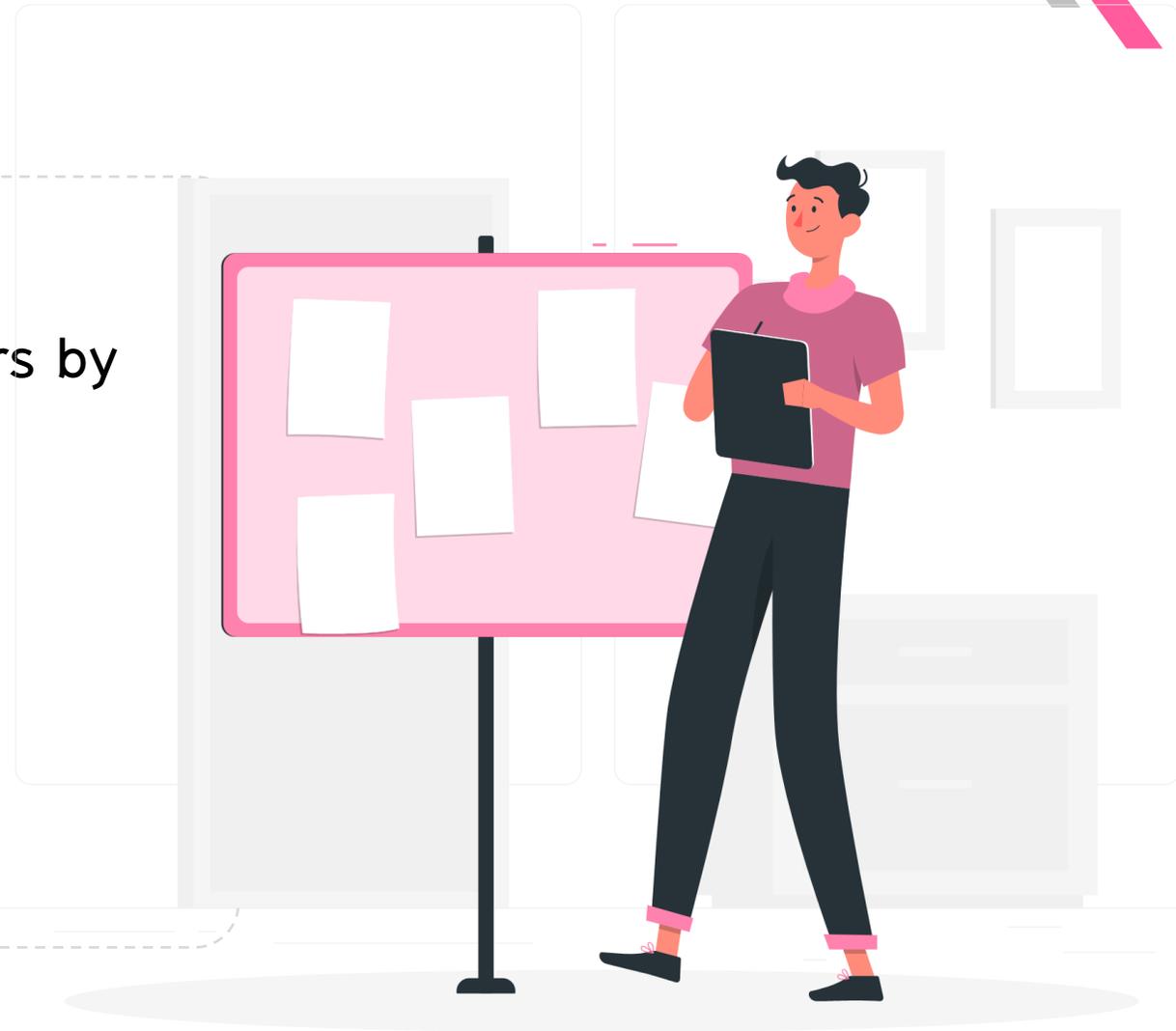


Benefits of lean management:



The benefits of implementing a lean management system will vary depending on your company, and how much you put into it, but some common benefits are:

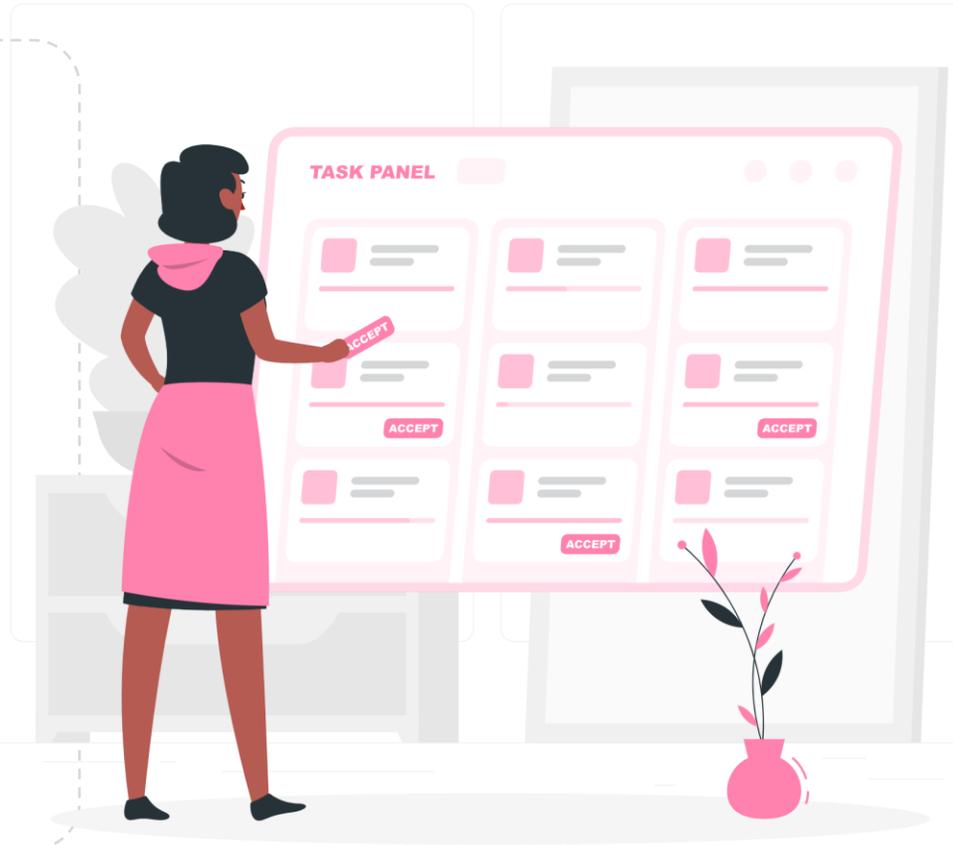
- Lean removes waste
- Help in gaining satisfied customers by having streamlined processes
- Increased efficiency
- Reduced stress
- Improved employee morale
- Safer work environment



Value Stream Mapping



This lean management tool is sometimes known as Lean manufacturing, and relates to the processes in a value stream mapping business being identified and analysed. This gets done by assigning a value to each separate activity that produces value to a product, service or process then mapping these accordingly.

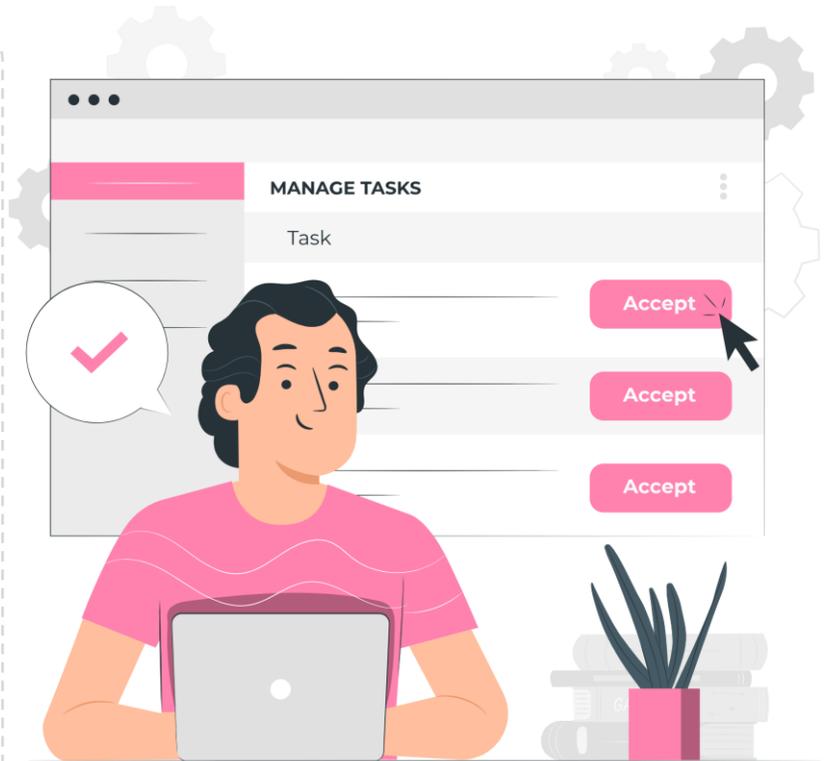


Benefits of Value Stream Mapping



- Highlights any processes that do not add value to the overall product or service, which can then be mitigated.
- Provides a better visualisation of the overall process flow
- Forms the basis of an implementation plan
- Shows the links between material and information flow
- This tool helps manage the change process
- Allows the company to see things from a customer perspective which increases the value to the customer

Value stream mapping (VSM) is a team-process, which should include representatives from all areas within the processes being mapped. There needs to be a facilitator who has experience in creating value stream maps. This person could be internal or external to the company.

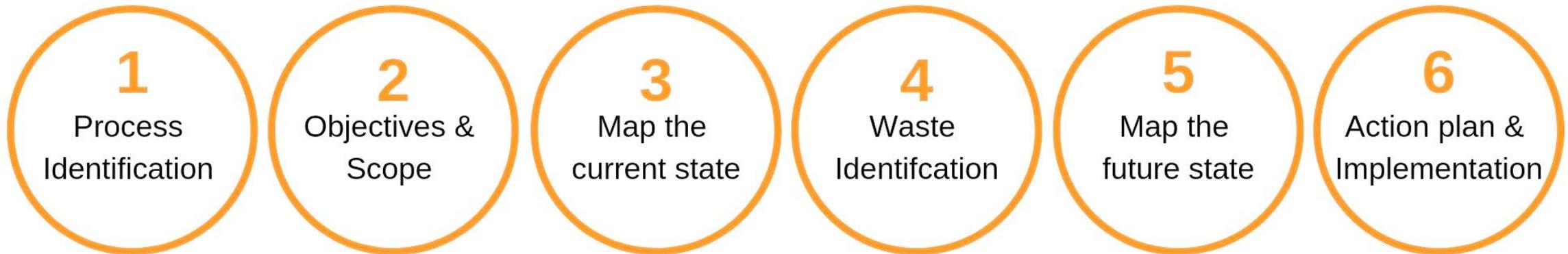


Value Stream Stages



There are 6 key steps in the Value Stream Mapping Process, outlined in the diagram below:

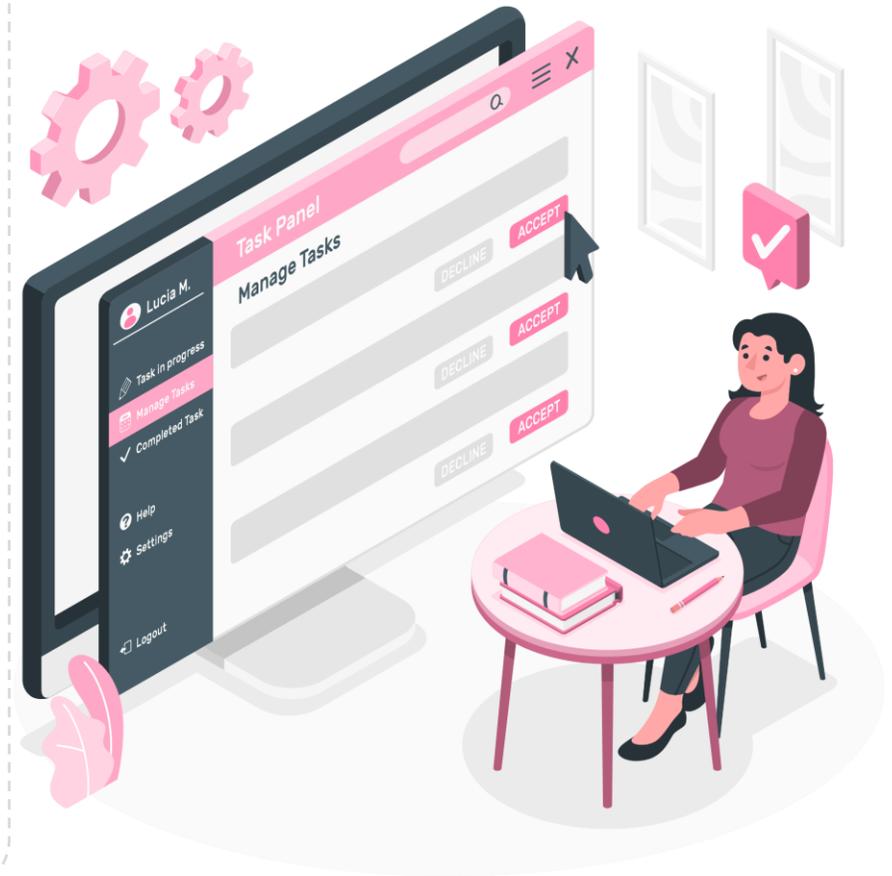
Key steps in the Value Stream Mapping Process:



1. Identification

This will initially involve identifying the value stream then deciding whether you want to map ‘material and information flow’ or just ‘information’. You will then need to gain leaderships buy-in. This is arguably one of the most important steps because if you haven’t got leadership buy-in, the VSM will be doomed to fail. Stakeholders will also need to be identified as they will be effected by this change.

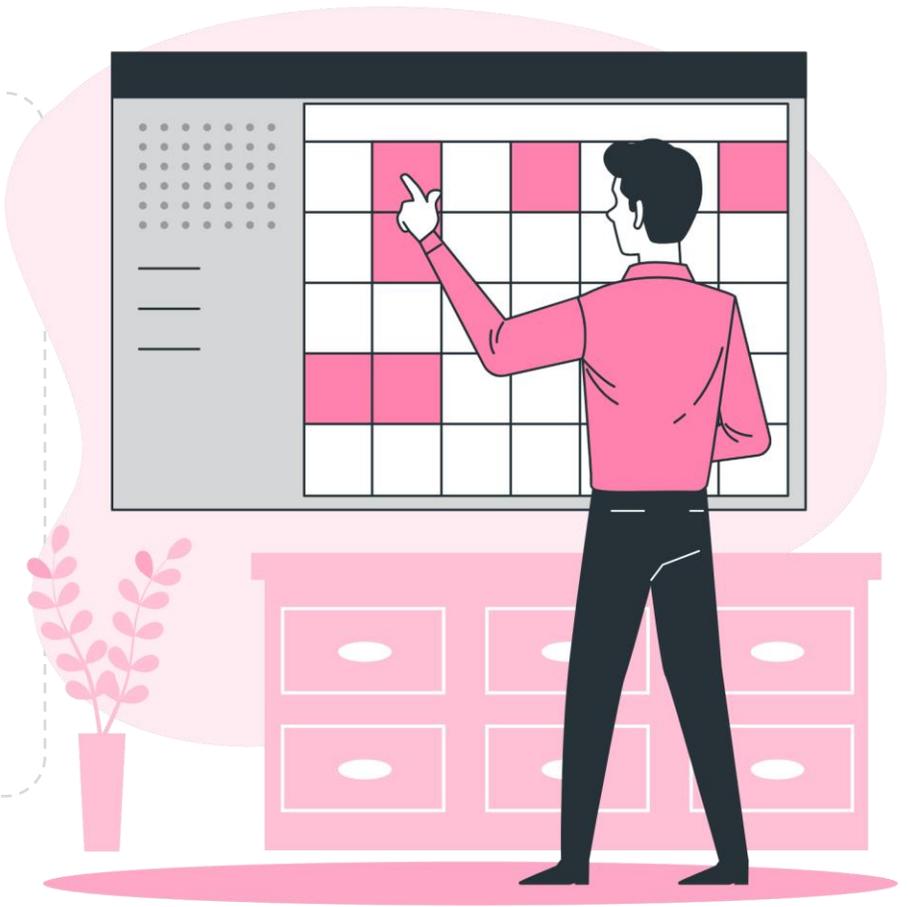
You do not want to start a VSM aiming to improve a particular area of the business if the stakeholders of this area are not initially aware, and later find out as this may result in pushback. Lastly, it is imperative that the purpose of the VSM is communicated well across the organisation in order to ensure everyone is on the same page.



You also need to decide on process level. This could be:

- Order to dispatch process (time sales department receives an order to the time dispatched to a person)
- Concept to launch (more related to engineering or research & development. The time the concept was raised to the time it was launched)
- Department/Business unit level (define the start and end of a process within an organisation for a certain department, then investigate that).

There should be one map for one product or related products that will track the cycle of this product from the supplier through to the customer. This is because there will be information overload if multiple various products get mapped together.

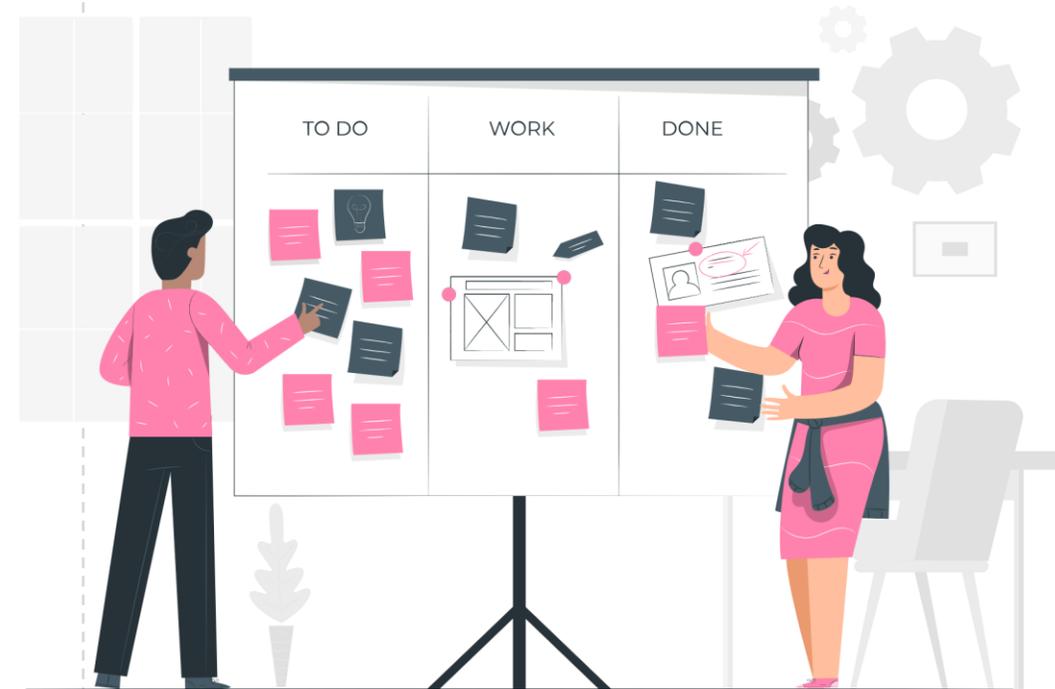


2. Define Objectives and Scope

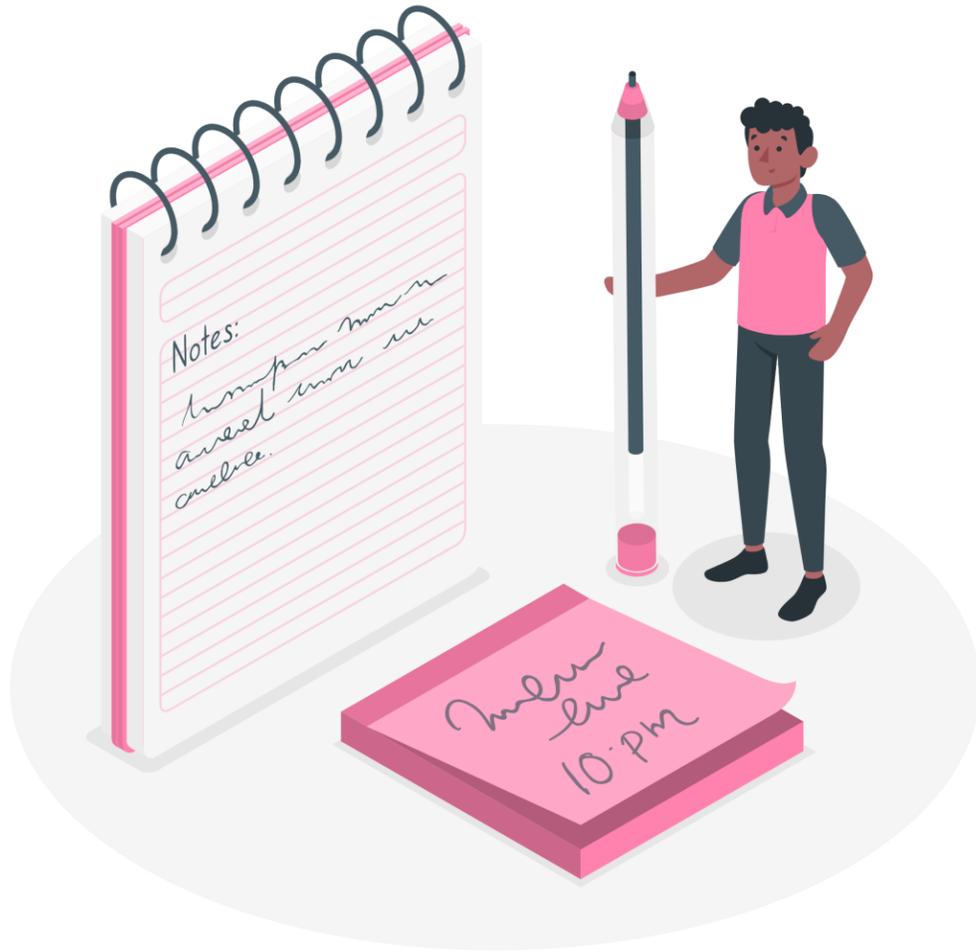


This step is related to quantifying success, which may involve outlining process boundaries and answering why it is important to change. This will require answering; Why is this important? Why do we need to change? What really is the problem? What does good look like? And what adds value to the customer?

For example you may be wanting to look at the way administration carries out a particular process, and establish that the current process creates frustration across the organisation, and increases lead time. If what you are proposing to change does not add value to the customer, then consider rethinking this change.



3. Map the current state



This step will involve creating ‘swim lanes’ of responsibilities – these make it easier to define accountability. Mapping the current state may first involve sketching the process map, then using sticky notes or A3 sheets to develop on these. The benefit of using sticky notes is that they are easy to move around.

It will be surprising at how differently people see the same process due to altering perspectives. This step will also include actually gathering the information, which means speaking with a relevant process expert and gaining an overall understanding of the current situation.



Then benchmark your organisations current state, which could be done using;

- Cycle Time: The value added time a person or team spends on a specific task or process step
- Lead Time: Total time a person takes to complete a task
- Right First Time %: Percentage of information based work that is complete and accurate the first time and doesn't require any rework or further clarification

4. Waste Identification

From mapping the current state, it will be easy to identify the areas that are creating waste from this current process. This step will involve a lot of brainstorming ideas for improvements from looking at the 8 wastes of lean and seeing which ones come into play. From here, the items that don't add value to the process can be separated into whether they can be fully eliminated or just minimised.

5. Map the future state

Once the map has been created to discover where the business is at today, another map can be designed that will envision an ideal state for the business to be moving forward. This is important as it will create a shared vision and goal for the company and all of the workers in it.

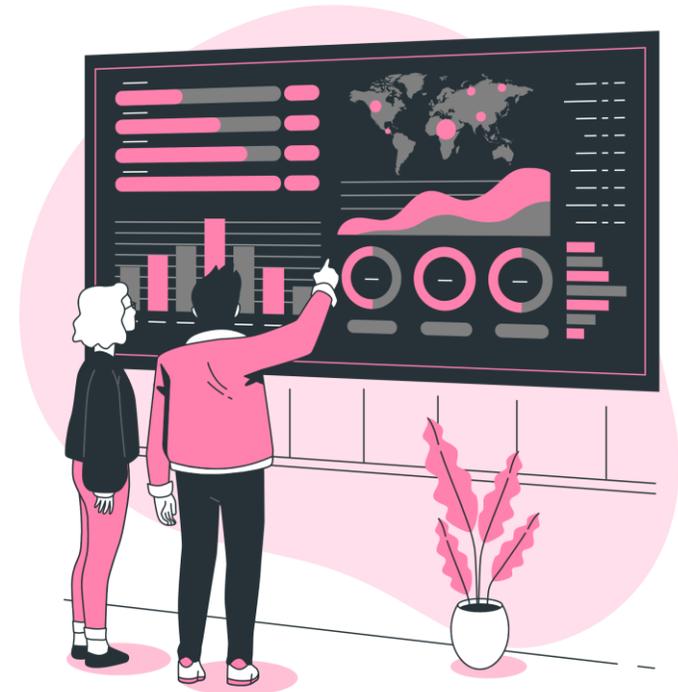


By looking at the current state the business is in, anything identified as “waste” will be removed when designing the map that is looking into the future. When removing this waste, the 8 wastes of lean will be taken into consideration in order to establish what is needed and what can be taken away, as demonstrated in the table above.



If you are struggling to identify which steps could be eliminated or minimized, it may be beneficial to ask;

- Where do team members or customers become frustrated?
- Which of these steps creates a bottleneck for the rest of the process?
- Which of these steps is the timeliest, or has the most amount of delays?
- Where do costs go up and down?



6. Action Plan and Implementation

As with any good brainstorm, it is important that some solid ideas come out of this. Without the action plan and implementation, all that has been achieved is some pictures on a wall.

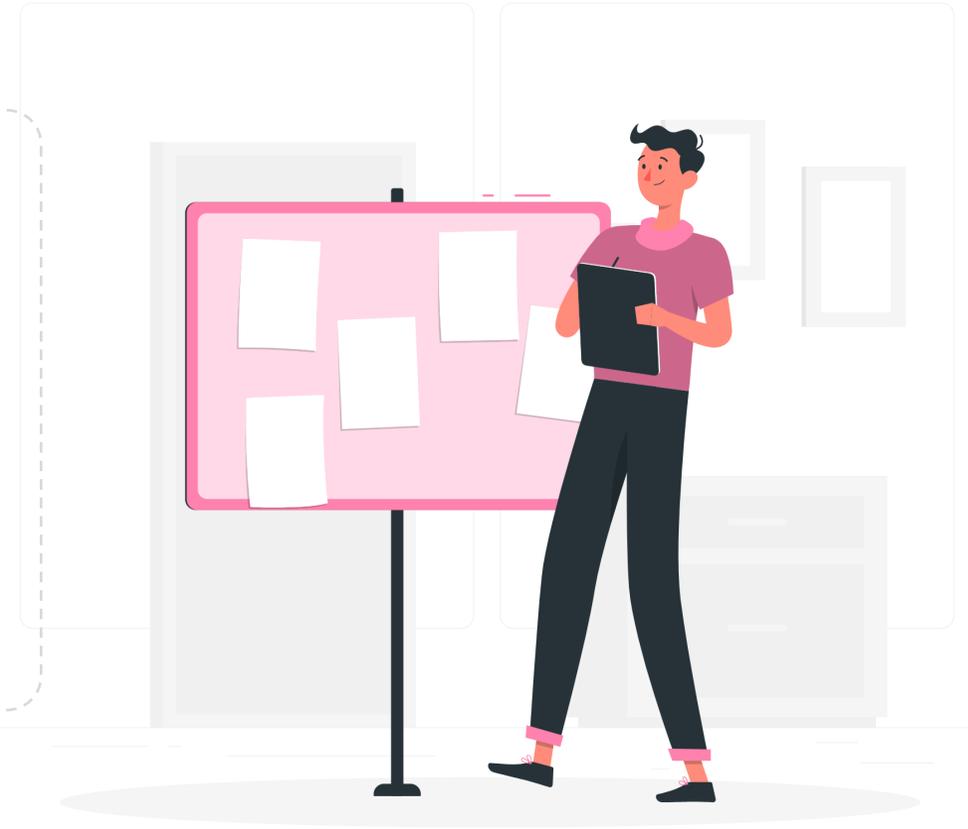


This final step of the VSM process requires ideas to be grouped into the following categories:

- Quick gains
- Investigations required
- Functional re-alignment
- Funding required



The action plan developed from these categories should include a timeline and the stakeholders that lead these tasks. Once the action plan has been established, the implementation of this plan should begin.

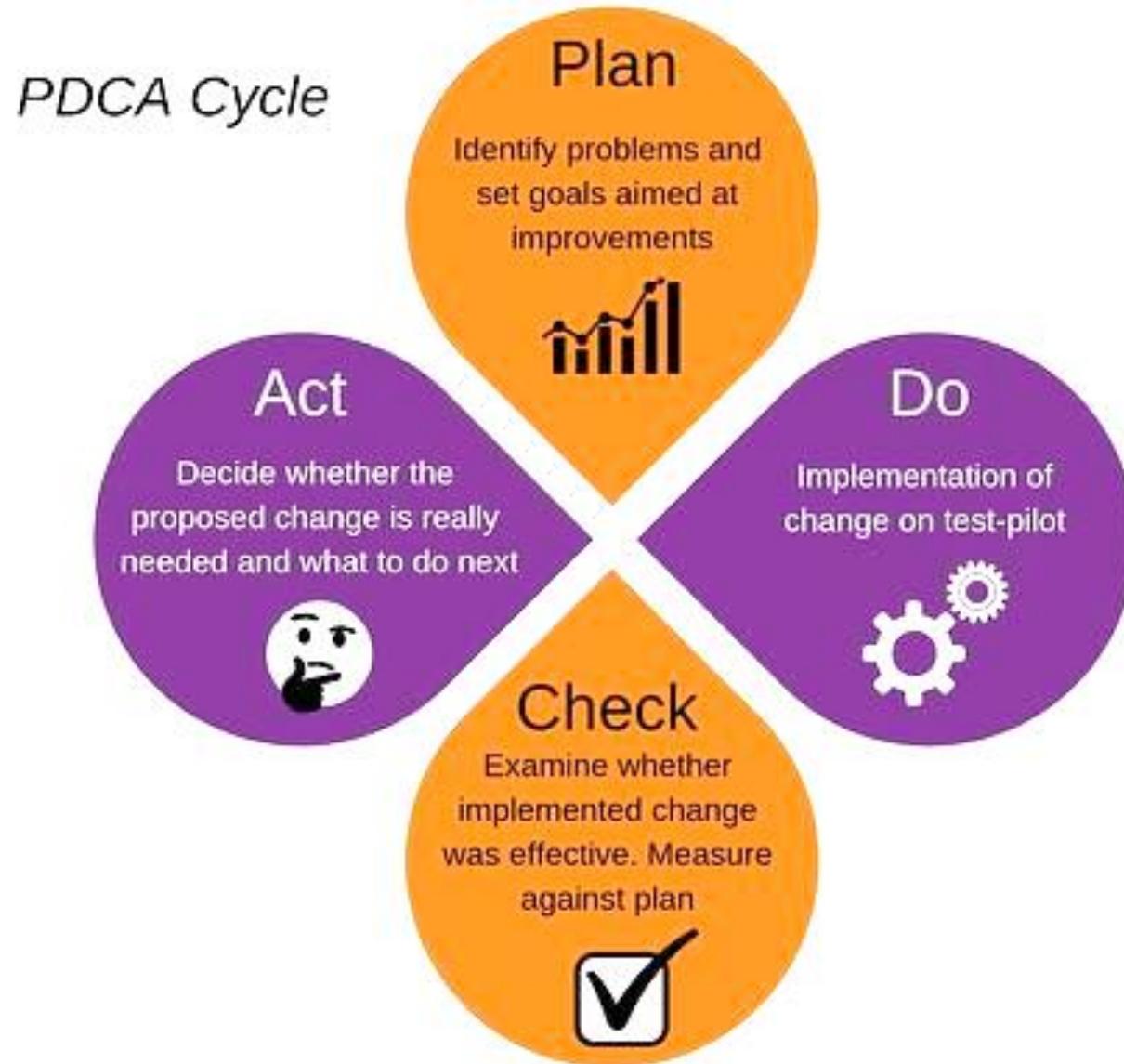


Plan-Do-Check-Act



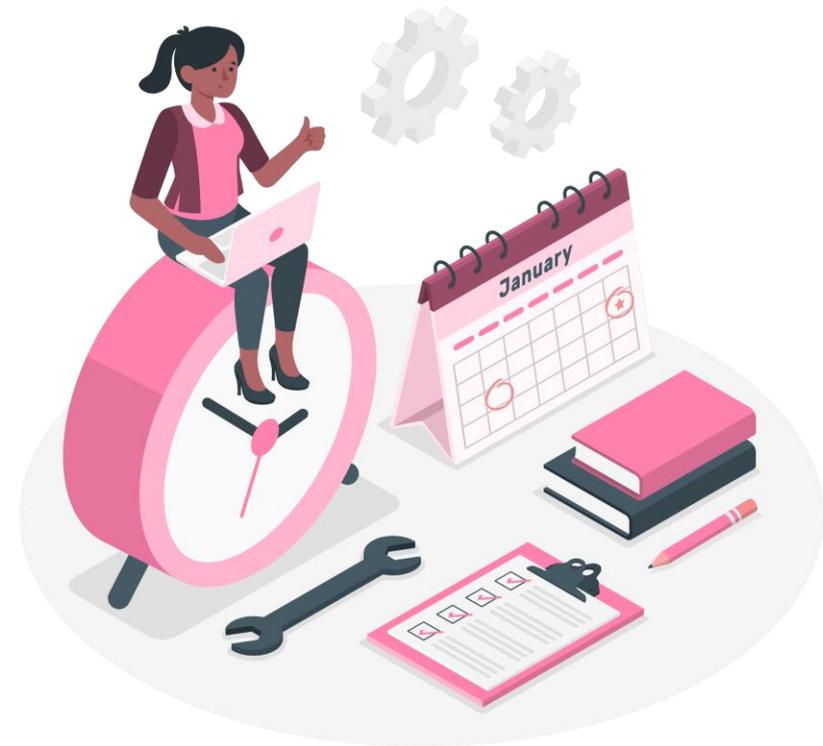
This lean management tool was created by Dr William Edwards Deming as a way to identify what caused products to fail to meet customers' expectations. This tool is useful in helping businesses develop theories about what needs to change, then following the continuous feedback loop in order to do this. It is a very simple framework but is effective in establishing a continually improving organisation.

The steps can be seen below:



1. Plan

The first stage of this model is identifying and understanding the problem at hand or the opportunity you want to grab. Once the problem or opportunity has been identified, as the name suggests, you will need to plan what you are going to do.

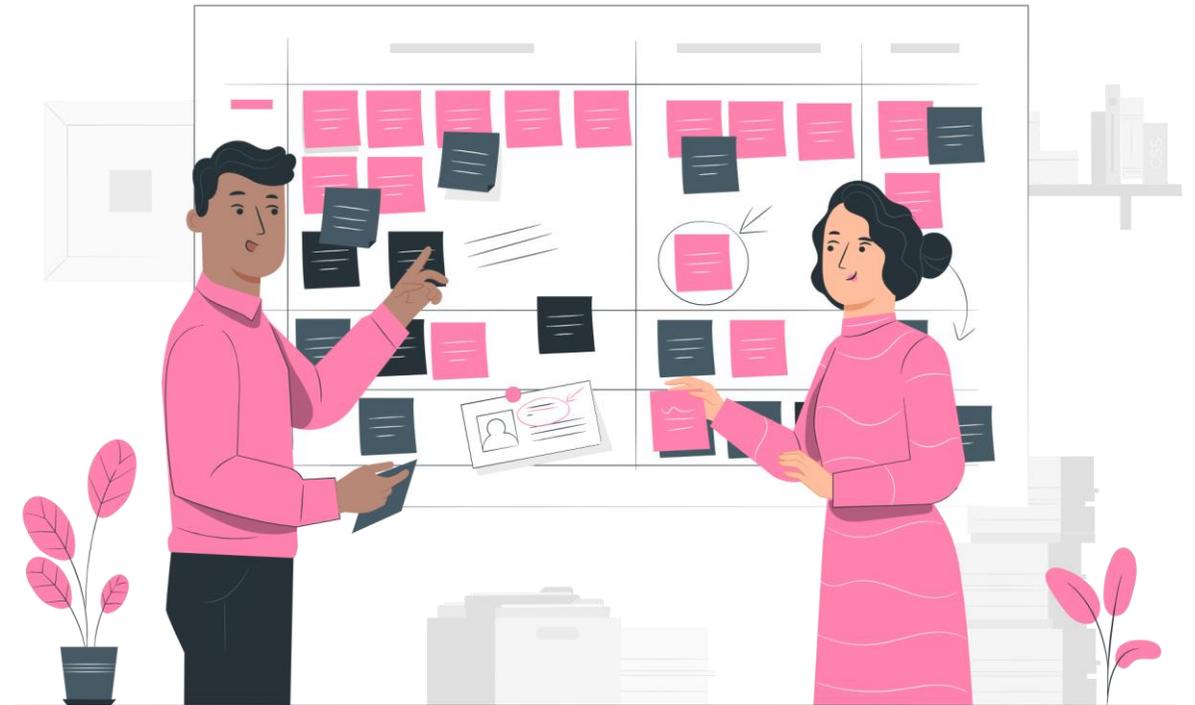


During this step, the scope will need to be identified, which will cover which part of the organization will be affected by this plan. Targets will also need to be set. It is important that there's are clear and quantitative in order to see if they have been met. It may be useful to use SMART goals when setting targets in order to ensure they are detailed enough.



When setting these goals, you may need to ask yourself questions such as;

- What are we trying to achieve by doing this?
- How will this benefit our workers or customers?
- Out of all of these solutions, which one is the best?



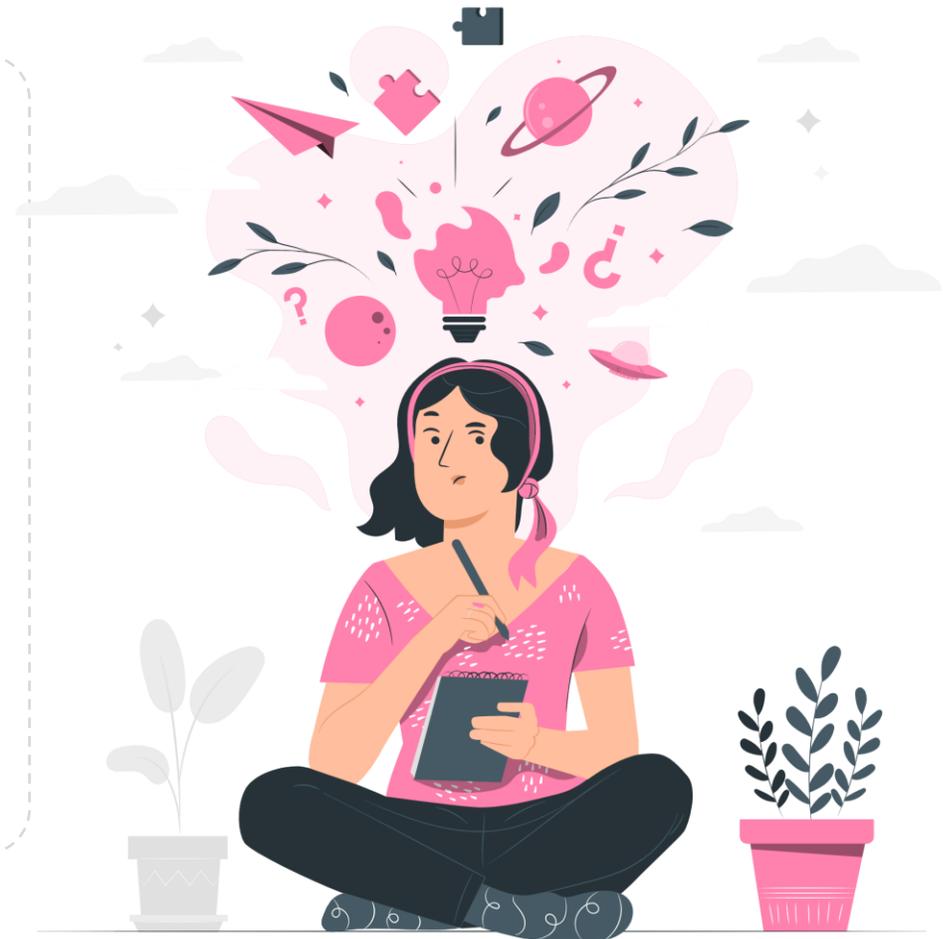
The plan stage is one of the most important stages of this tool, as it will set out a road map of what is going to be done and why. It will help in ensuring everyone involved with this change is on the same page and knows the importance of it.



2. Do

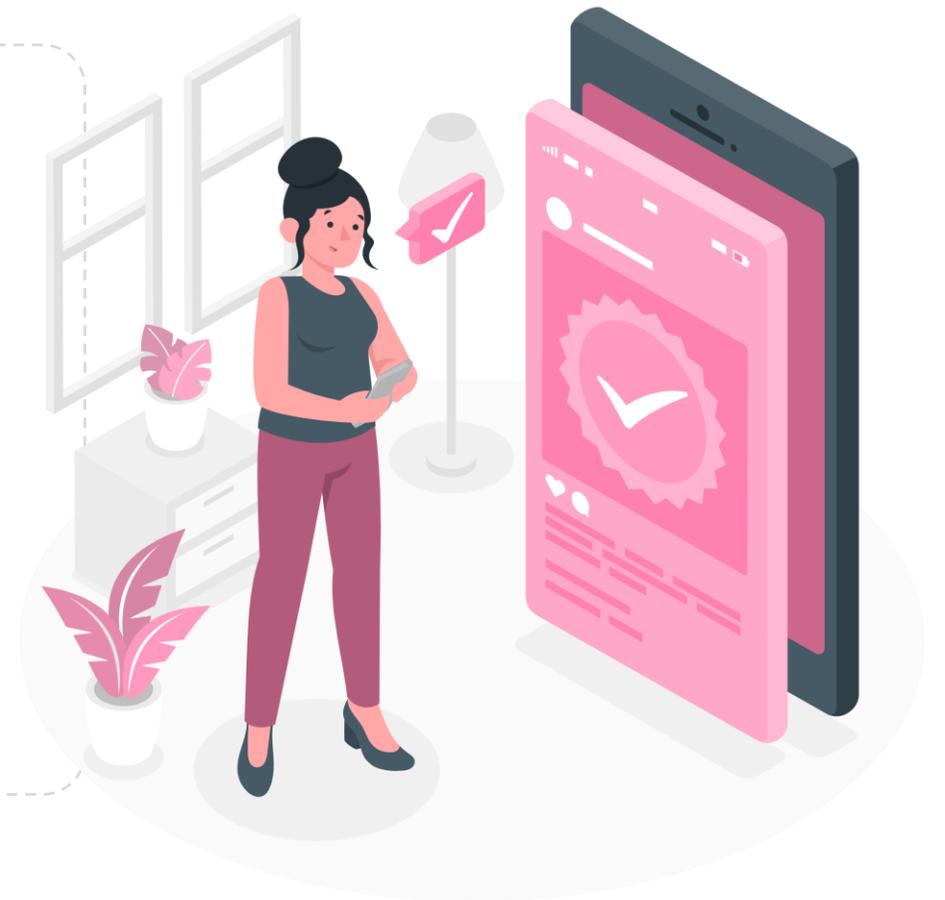
This is where you actually implement the change, whatever it may be. This stage will follow the plan set out above in order to ensure everything runs as it is meant to. Although you will be following the plan, this is the stage that may cause you to encounter some problems that had not been thought of by anyone. This is normal, and the problems can be solved as they appear.

It may be beneficial during this step, to test a small-scale project of what you are going to be implementing prior to changing a whole process. This could be done by organizing a trial within one department of the organisation before launching the new project fully throughout the business.



3. Check

This stage of the PDCA model is where you examine whether the implemented change has actually had the desired effect. Measure up the results of the change with the goals that were set during the 'do' stage to determine whether this is a success.



If the results are not what you wanted, this is where you would return to step 1, rather than moving on to step 4. There is no point of moving through the rest of the process if the results were not met. When performing the check part, it must be taken into consideration whether the change implemented will work into the long-run or just for the time being

4. Act

The final stage of the PDCA cycle involves deciding what to do next. This is where you will have to look at the outcomes of the check stage and weigh up whether it will be worth it or not to fully implement the proposed change. If you decide not to act on the implementation, it may be beneficial to ask “why did this not produce the results we wanted?” This will be helpful in gauging why the proposed system will not be successful, and may require running back through previous steps of the cycle.

If you decide to fully implement the change, this PDCA essentially stops. However, this means it is time to work on another PDCA. It is a repeating cycle, until all of the organisations problems are solved. Ultimately, the PDCA is a tool used to improve all activities throughout an organisation. It is important that all steps are covered thoroughly rather than skimmed over, as there are not many of them and disregarding one may lead to incorrect results at the end of the cycle.

5S Framework



What is 5S?



This is a workplace method aimed at improving your organization, based upon the five Japanese keywords:

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



This framework was created in Japan with the intention of describing how to efficiently and effectively organize a workplace by looking at the items used and decisions made in regards to the 5S's



1. Sort (seiri)

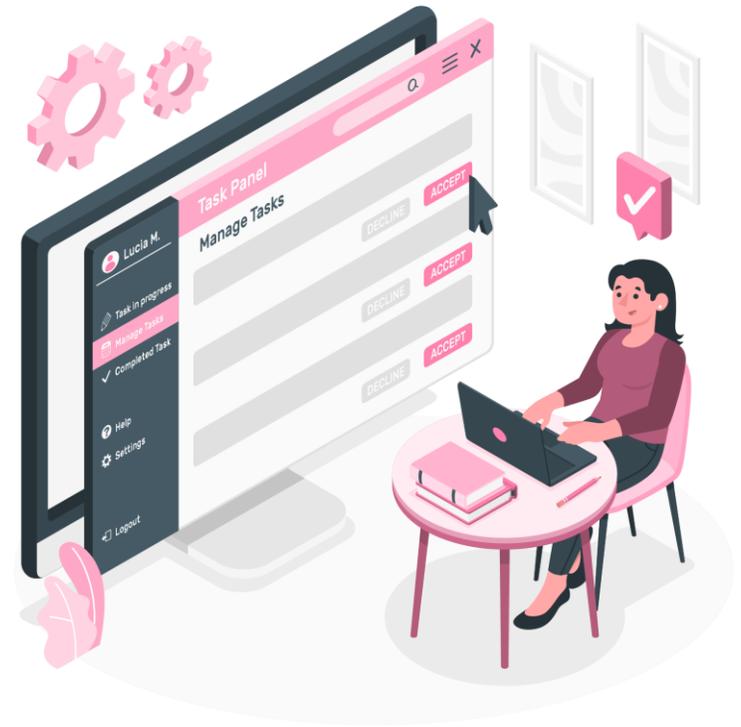
- The first S relates to the sorting of all items within one location, and removing anything that is not necessary to be there.
- The way this is interrelated with Lean is that through the reduction of unneeded items, there will be a decrease in time spent looking for the needed item, linking in with the idea of transportation and inventory.

This can be implemented by first checking all the items in a location, and determining whether they are all needed in this location. If not, the unnecessary items should be removed.



2. Set in Order (seiton)

- This can also be known as ‘straighten’, and relates to putting all items in their prime place for carrying out their function within the workplace.
- The ultimate goal of this is to make the workflow smooth and easy.



This can be implemented through the arrangement of tools in a work space – ensure they are in close proximity to each other and in a logical order. Using labels to identify particular items will make this step easier.



3. Shine (seiso)

- This step is the act of cleaning and inspecting anything in the workplace, machines or tools on a regular basis. By doing this regularly you will prevent the tools and machines deteriorating, as well as ensuring the workplace is a safe environment to work in.
- This relates in with the Lean waste of Defects, and will help in keeping them low for the company.

4. Standardize (seiketsu)

This relates to making up rules, following them and enforcing them throughout the workplace. If there is a standard set of rules across the workplace, this will reduce any unnecessary steps when carrying out the first 3 S's.

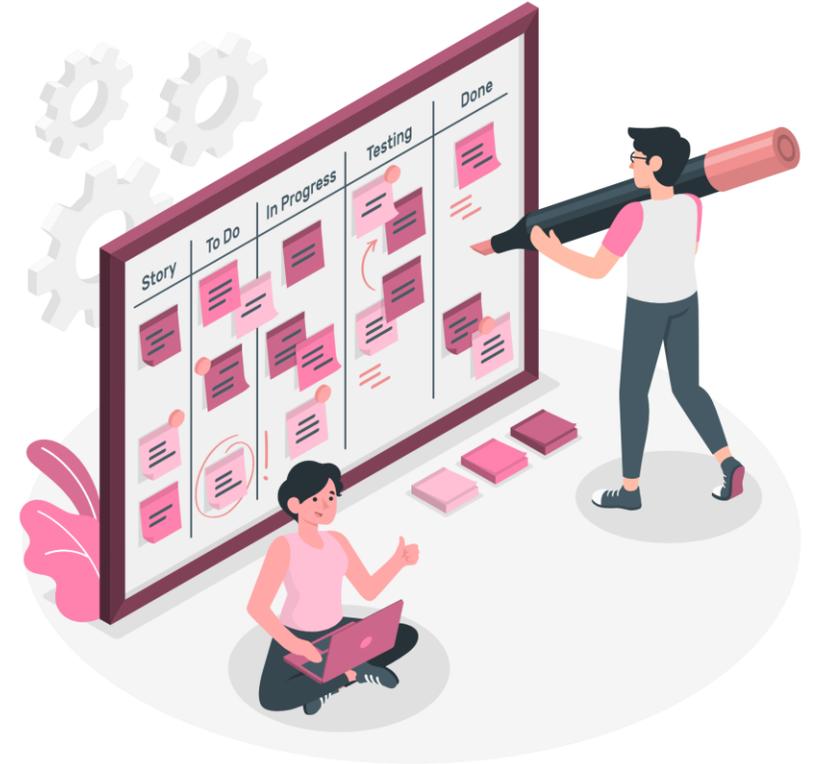


This step may require a schedule be put in place outlining the standardized procedure for repeating the first 3 S's.



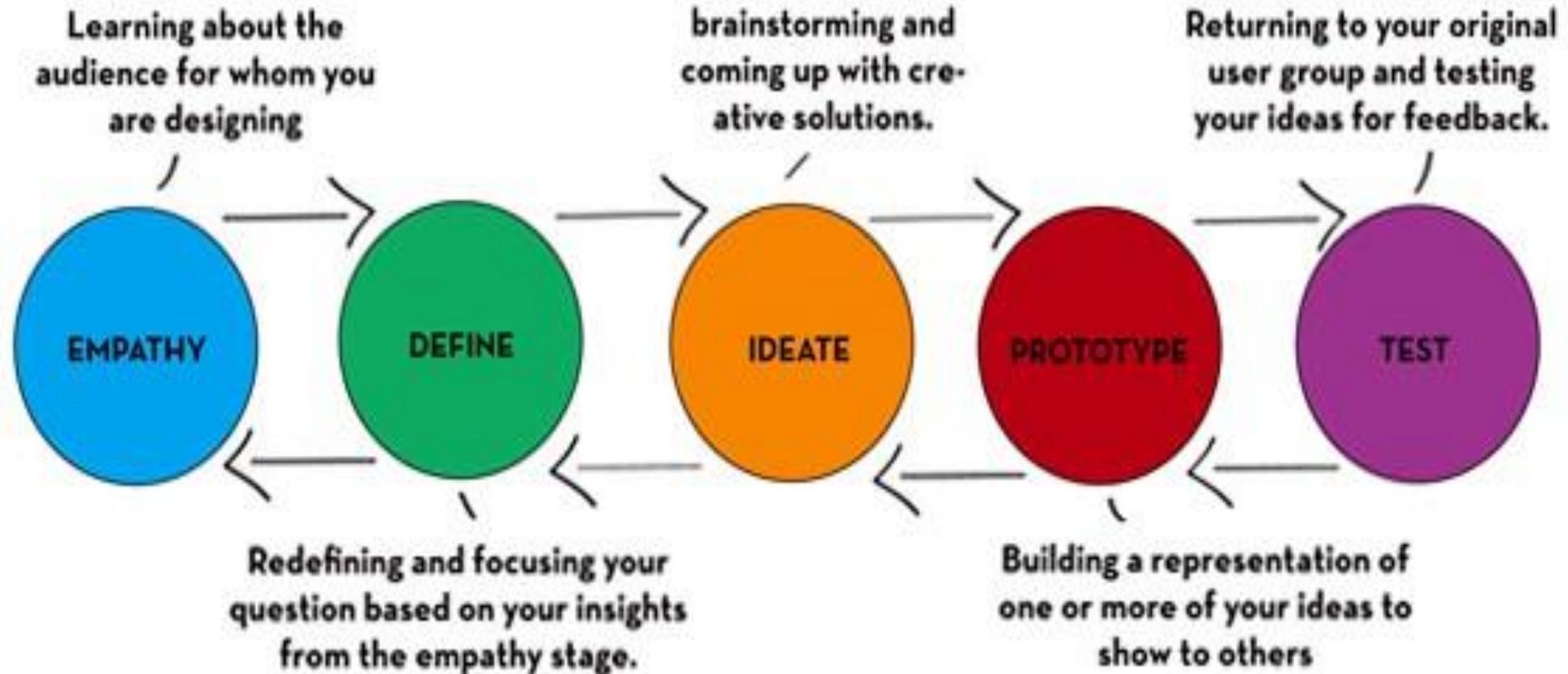
5. Sustain / Self-Discipline (shitsuke)

- Ensure the developed processes are sustained by self-discipline of workers.
- This can also be thought of as the employees knowing what to do without being told. The goal here is to sustain all workers habits so they become a part of their everyday routine.



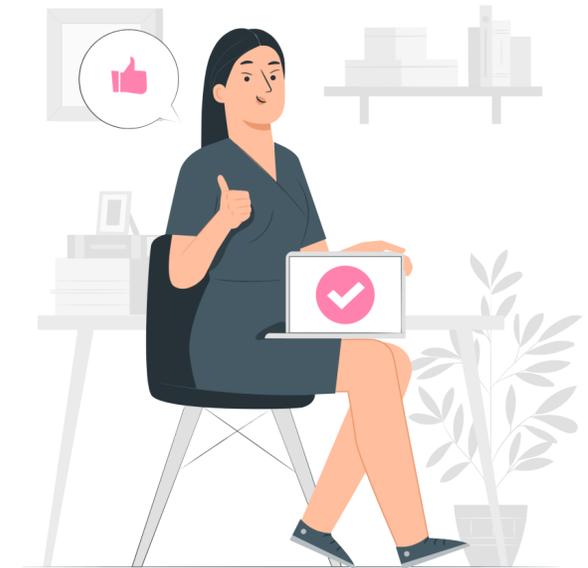
A3 Problem Solving Template

Design Thinking Process



Design Thinking Process

A3 problem solving is a structured problem-solving and continuous-improvement approach, first employed at Toyota and typically used by lean manufacturing practitioners. It provides a simple and strict procedure that guides problem solving by workers.



Steps of the A3 Process



Step 1: Identify a problem or need.

Step 2: Conduct research to understand the current situation.

Step 3: Conduct root cause analysis.

Step 4: Devise countermeasures to address root causes.

Step 5: Develop a target state.

Step 6: Create an implementation plan.

Step 7: Discuss plans with all affected parties

Step 8: Obtain approval for implementation

Step 9: Implement plans

Step 10: Evaluate the results

Note that the A3 process is rooted in the more basic PDCA cycle. Steps 1–8 are the Plan step (with step 5 planning the Do step and step 6 planning the Check step). Step 9 is the Do step, and step 10 is the Check step. Based on the evaluation, another problem may be identified and the A3 process starts again (Act).



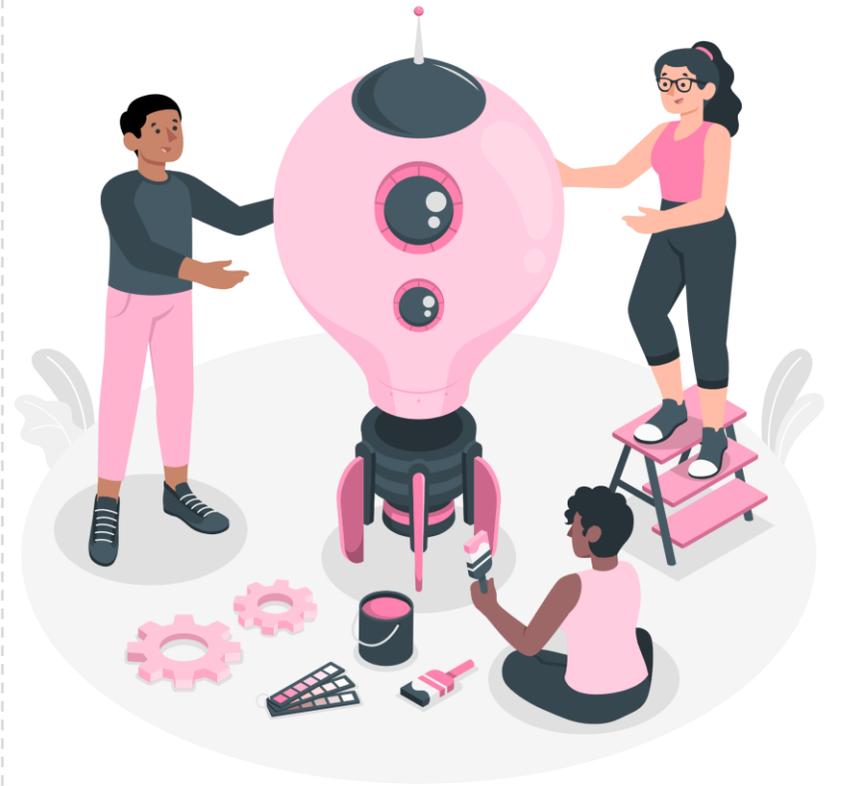
A3 Thinking



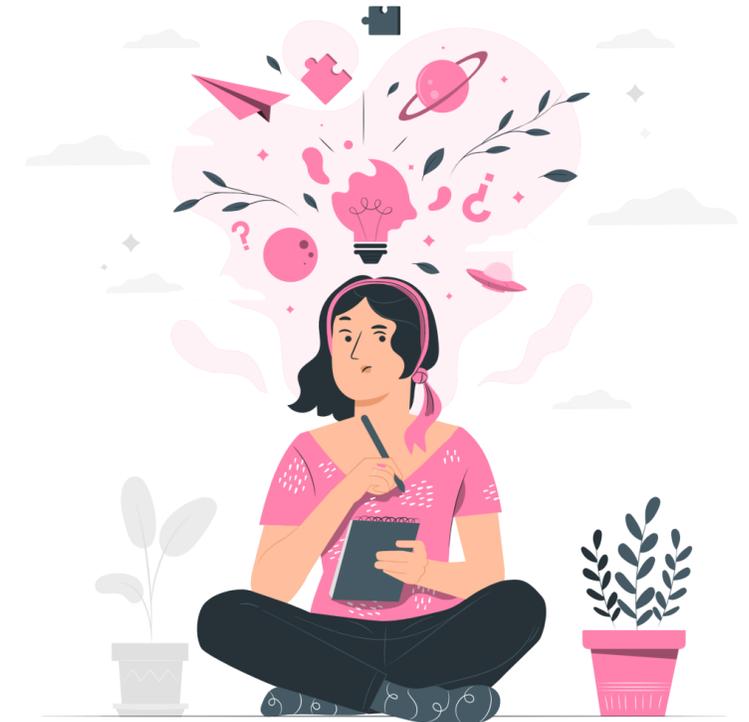
A3 Thinking is a logical and structured approach to problem solving adopted by Lean organizations around the world. It allows to focus on the real issues while helping the team collaborate to gain deeper insight into problems. It is aligned with and supports the PDCA management philosophy.



The A3 Template provides a simple and consistent approach to problem solving using the logical thinking process. It is composed of a sequence of sections that fit together on the standard A3-size papers. This will make the problem solving progress visible to the entire team while allowing the lessons to be learned by others.



his template comes in two different variations; one that is simple and user friendly, and another that requires to provide more detailed information. If you have any difficulties customizing this template or you lack time to do so, we will be happy to perform the customization for you.



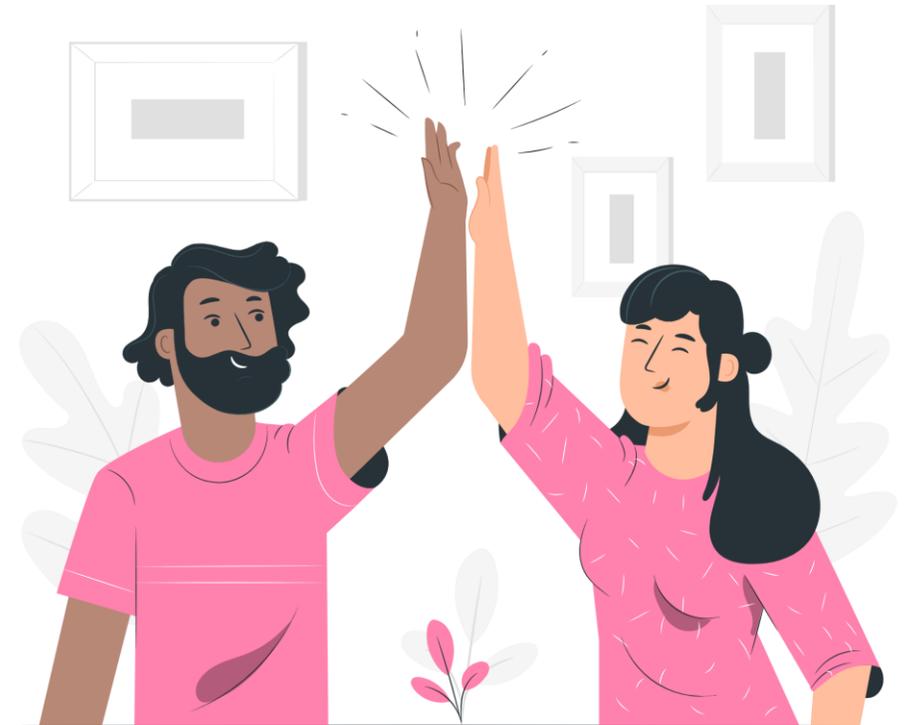


Let us know what you need and we'll do our best to serve you. Please help us to make this template better by providing us with your comments and suggestions.

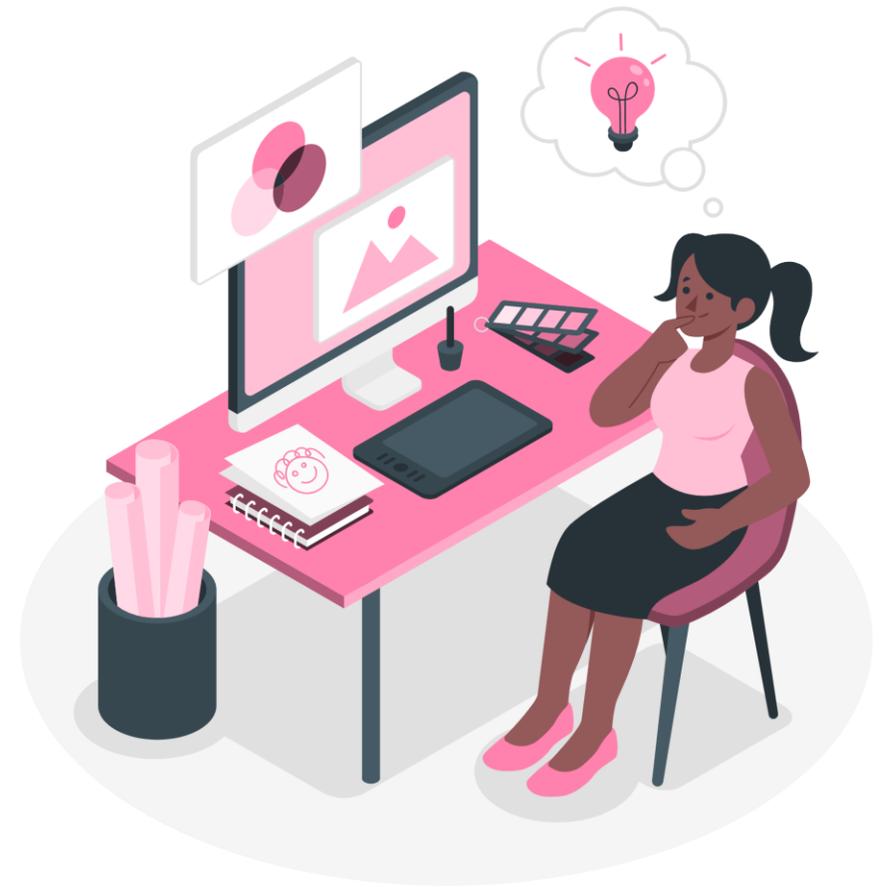


This template is a Microsoft Excel spreadsheet that you can use and modify to meet your specific needs. It can easily be modified to include additional sections if needed.

For example, you may increase the number of rows and thus the size of the implementation plan or the follow-up plan. You may also modify headers and spacing as needed.



This template is a Microsoft Excel spreadsheet that you can use and modify to meet your specific needs. It can easily be modified to include additional sections if needed.



Step 0: Identify Problem or Need



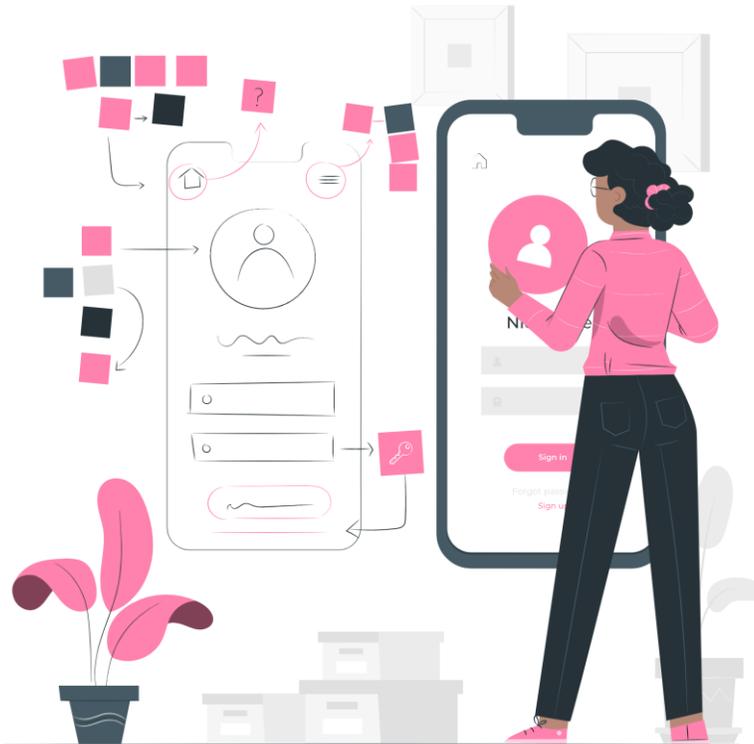
Whenever the way work happens is not ideal, or when a goal or objective is not being met, you have a problem (or, if you prefer, a need). The best problems to work on are those that arise in day-to-day work and prevent you from doing your best.



Example:

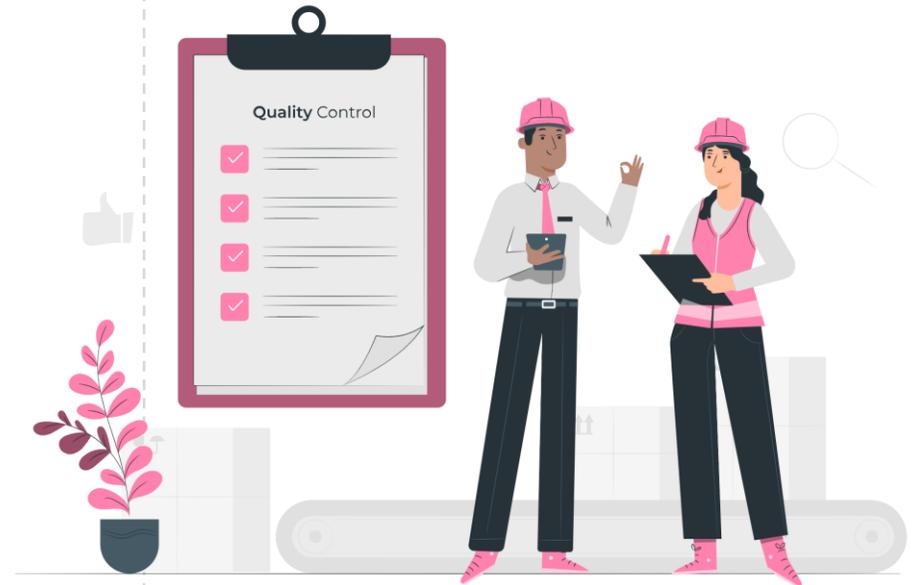
Patients in a hospital were not arriving to the diagnostic departments during their allotted time. Because the patients were late, the diagnostic departments were getting backed up. Thus the problem to be addressed was: reducing patient back-ups in the hospital's diagnostic departments due to late arriving patients.

Step 1: Understand Current Situation

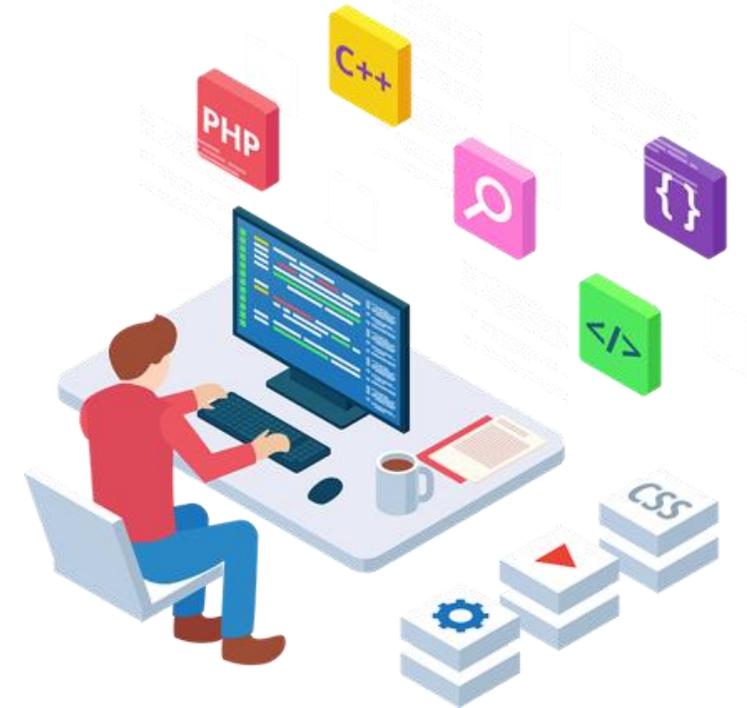


Before a problem can be properly addressed, one must have a firm grasp of the current situation. To do this, Toyota suggests that problem-solvers:

- Observe the work processes first hand, and document one's observations.
- Create a diagram that shows how the work is currently done. Any number of formal process charting or mapping tools can be used, but often simple stick figures and arrows will do the trick.

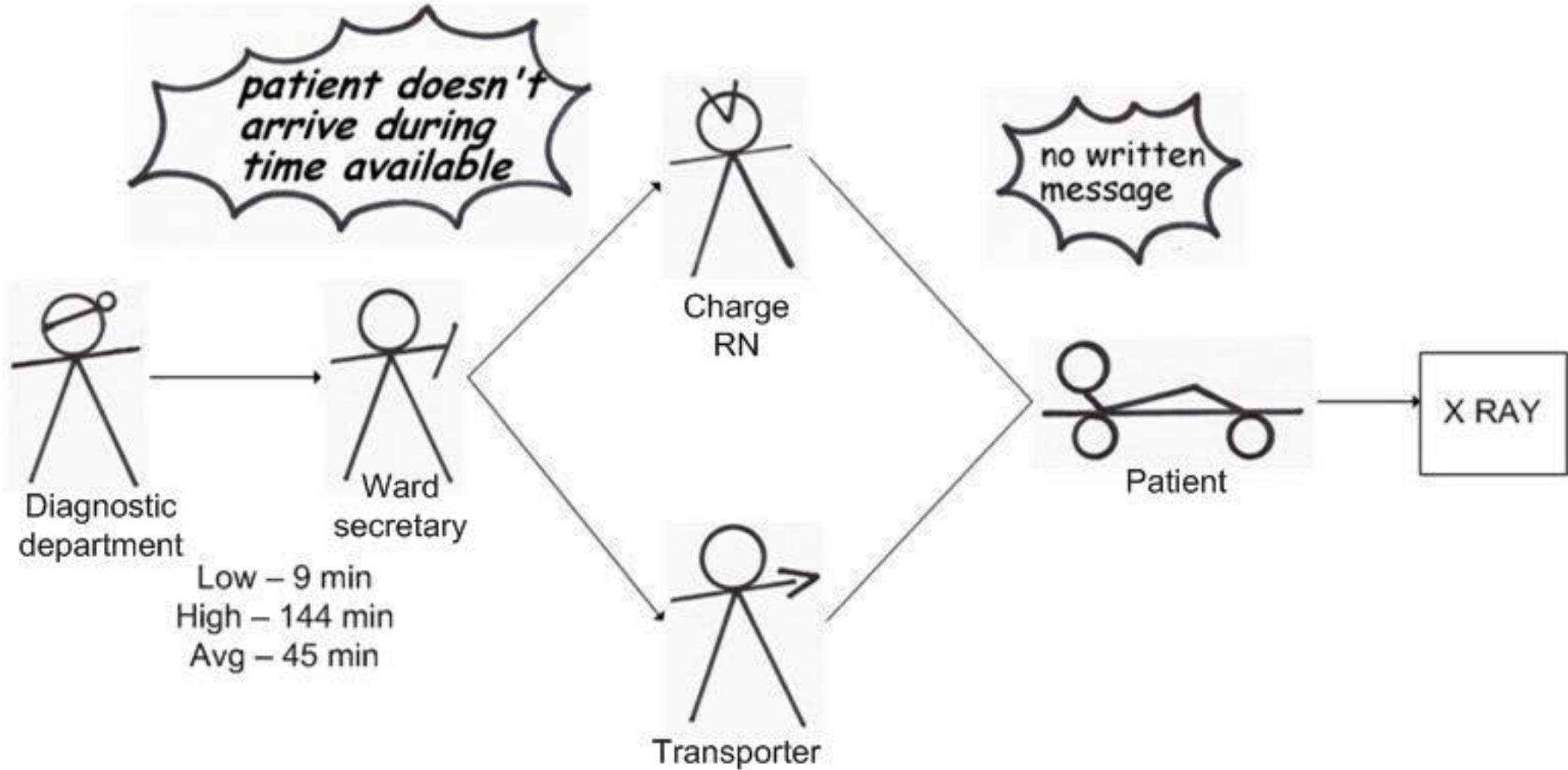


- Quantify the magnitude of the problem (e.g., % of customer deliveries that are late, # of stock outs in a month, # of errors reported per quarter, % of work time that is value-added); if possible, represent the data graphically.



Example:

Below is an example of the diagram representing the current condition of patient transport in a hospital, showing how transporters are contacted to transport patients with mobility difficulties to their appointments in the diagnostic departments. The storm bursts call out problems with the current situation. The data indicate the ranges and averages of patient delivery time.



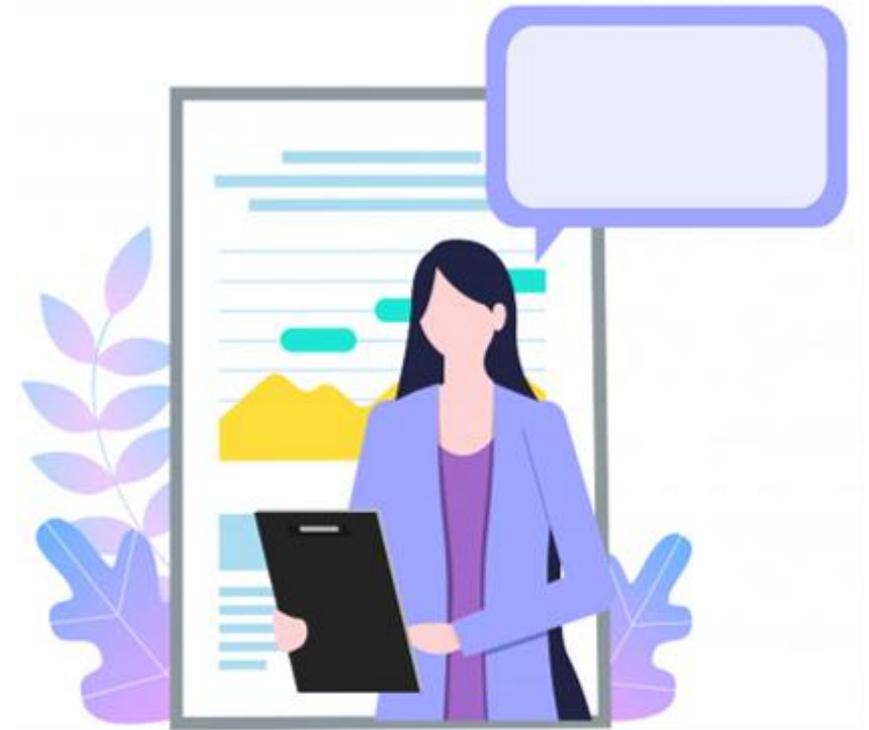
Step 2: Root Cause Analysis



Once you have a good understanding of how the process (i.e., the one that needs to be fixed) currently works, it's time to figure out what the root causes are to the errors or inefficiency. To accomplish this, first make a list of the main problem(s).

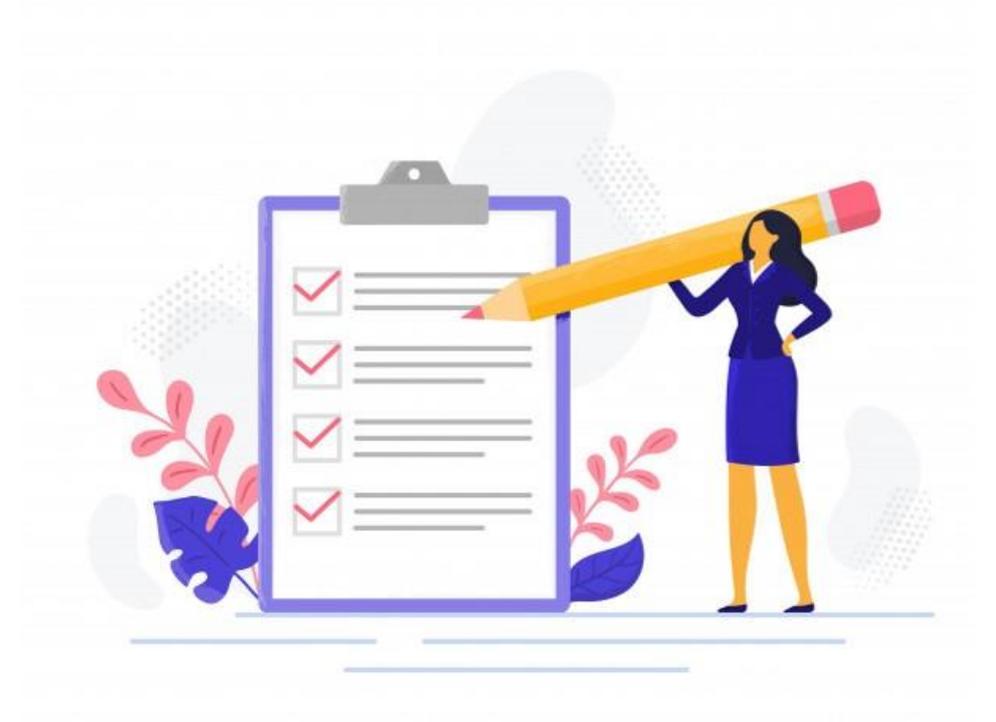


Next, ask the appropriate "why?" questions until you reach the root cause. A good rule-of-thumb is that you haven't reached the root cause until you've asked "why?" at least five times in series.



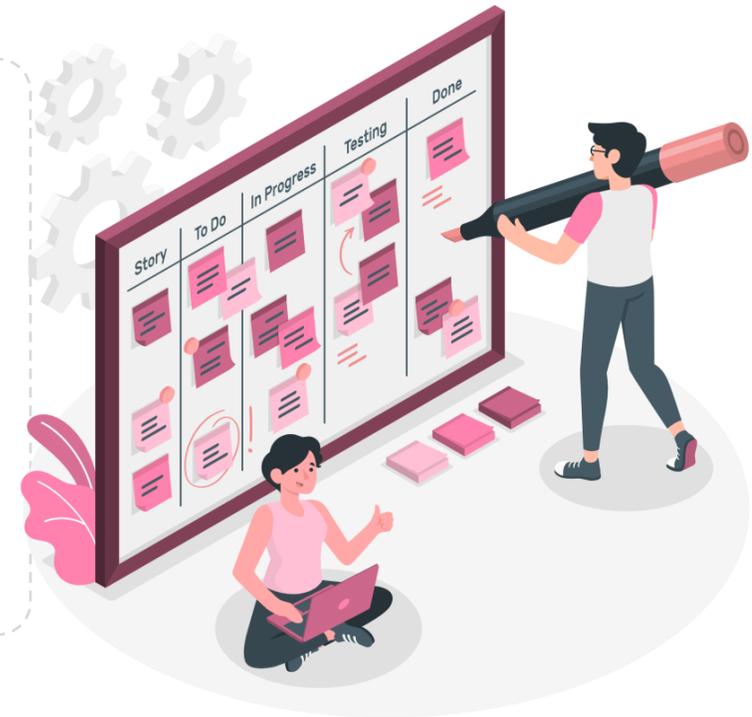
Example:

A team trying to improve patient transport processes recognized that the main problem was that patients were not arriving on time for their diagnostic procedures, causing severe back ups in the diagnostic departments.



In this case, three causes to patients arriving late were identified by observation, and each was pursued to a root cause, as shown below.

Problem: Backups in diagnostic departments.



Why?:

- Patients arriving late
- Transporter not called on time
- Ward secretaries are busy and often forget
- No written message
- No protocol
- Transport unable to locate patient
- Page does not include patient location (name only)
- No standard protocol for transport paging
- Patient not ready for transport
- Nurses unaware of prescribed test
- No mechanism to inform RN of scheduled procedure

The root cause analysis revealed that patients were arriving late because the hospital had no procedure for notifying appropriate personnel of a transportation need, and that transporters and RN's were not contacted directly by the requesting department.



Step 3: Countermeasures



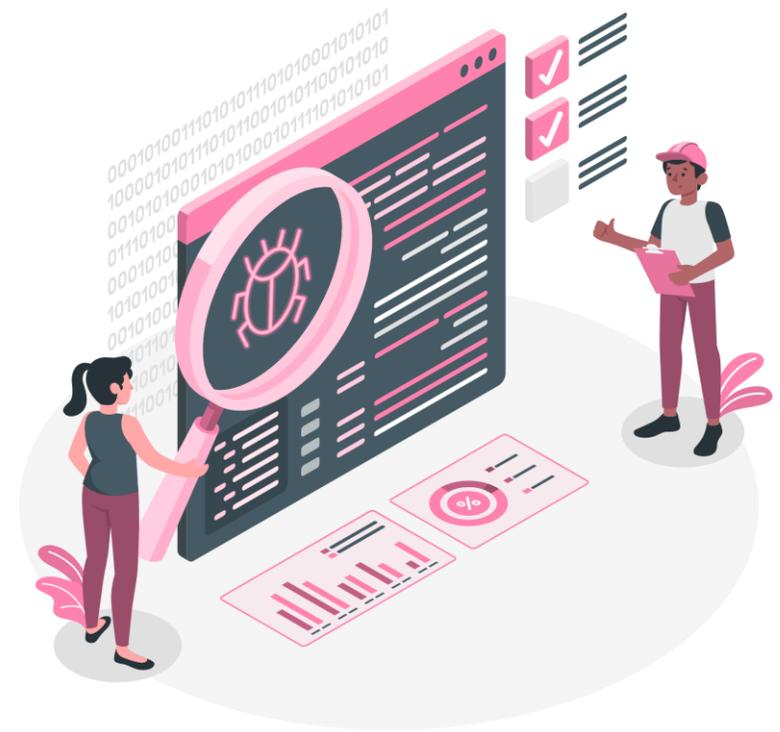
Once the current situation is fully understood and the root cause(s) for the main problem(s) has been unveiled, it's time to devise some countermeasures. Countermeasures are the changes to be made to the work processes that will move the organization closer to ideal, or make the process more efficient, by addressing root causes.

Generally speaking, we recommend that countermeasures help the process conform to three “rules” borrowed from Steven Spear and Kent Bowen¹ and slightly expanded:

- Specify the outcome, content, sequence, and task of work activities
- Create clear, direct connections between requestors and suppliers of goods and services
- Eliminate loops, workarounds, and delays

Example:

The team investigating delayed transport of patients to diagnostic departments discovered that the root cause was lack of clear protocol for communicating between the diagnostic department, RN of the clinical department, and the transporter.



To fix this problem, they came up with some countermeasures that included:

- A new protocol where the diagnostic department pages the charge RN and the transporter at the same time (thus eliminating the ward secretary as an intermediary)
- Specified information content of pages
- New patient preparation procedures involving both the RN (or technician designated by the RN) and the transporter

Step 4: Develop the Target State



The countermeasure(s) addressing the root cause(s) of the problem will lead to new ways of getting the work done, what we call the target condition or target state. It describes how the work will get done with the proposed countermeasures in place.

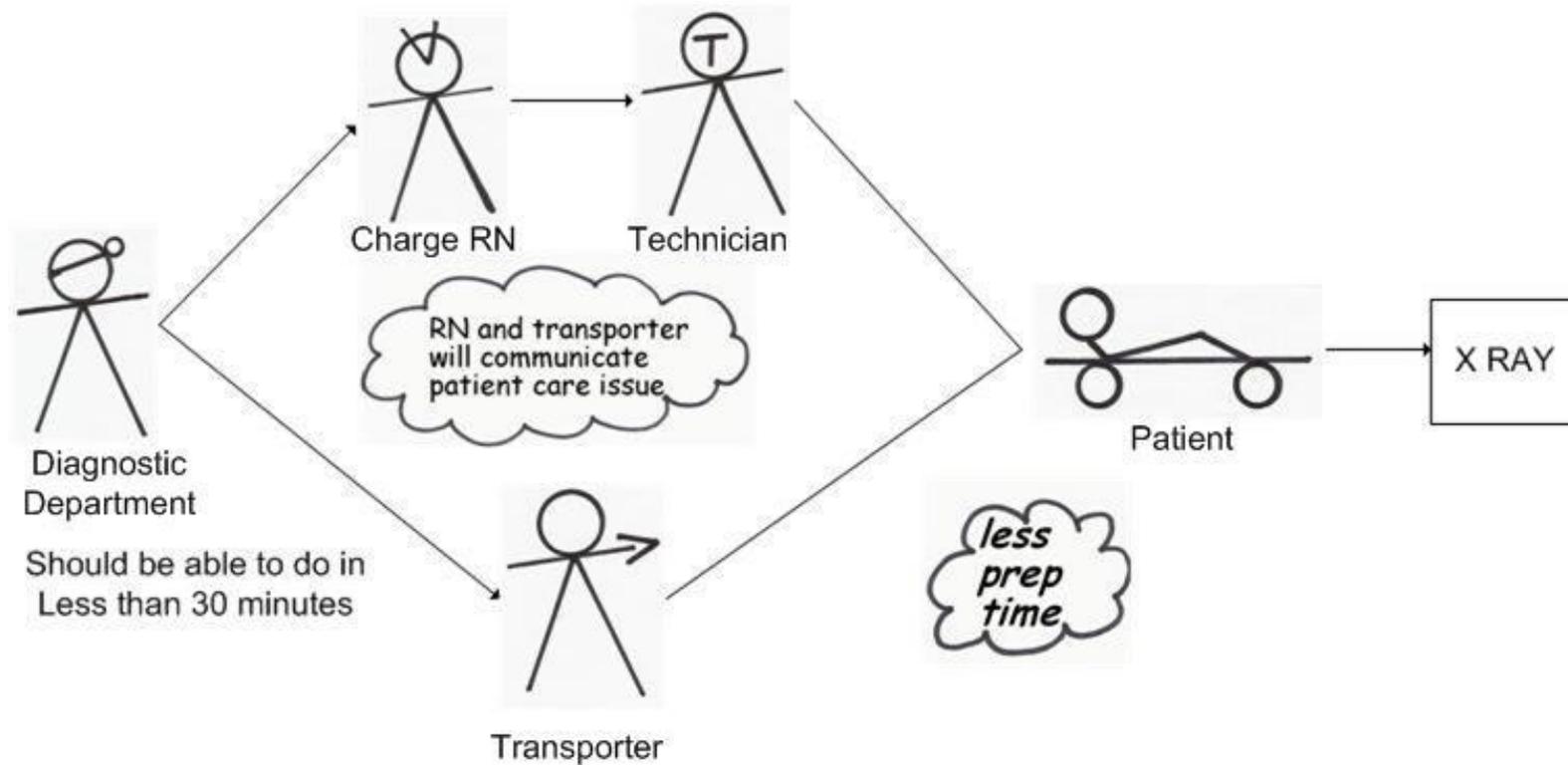


In the A3 report, the target condition should be a diagram (similar to the current condition) that illustrates how the new proposed process will work. The specific countermeasures should be noted or listed, and the expected improvement should be predicted specifically and quantitatively.



Example:

A target condition for a revamped patient transportation process is depicted below.



Step 5: Implementation Plan



In order to reach the target state, one needs a well thought-out and workable implementation plan. The implementation plan should include a list of the actions that need to be done to get the countermeasures in place and realize the target condition, along with the individual responsible for each task and a due date. Other relevant items, such as cost, may also be added.

Example:

An example of a simple implementation plan is below. Note that the task, the person responsible, deadlines and the outcome of the tasks are all specified.

WHAT?	WHO?	WHEN?	OUTCOME
group page	Joe Bob	3/3/2006	clear signal
meet with charge RNs	manager	3/15/2006	educate and gain feedback
tracking sheet	Jane Doe	3/15/2006	always know location of patient
cheat sheet	manager	3/15/2006	pager #'s for different departments

Step 6: Follow-up Plan



A critical step in the learning process of problem-solvers is to verify whether they truly understood the current condition well enough to improve it. Therefore, a follow-up plan becomes a critical step in process improvement to make sure the implementation plan was executed, the target condition realized, and the expected results achieved. You can state the predicted outcome here rather than in the target condition, if you prefer.

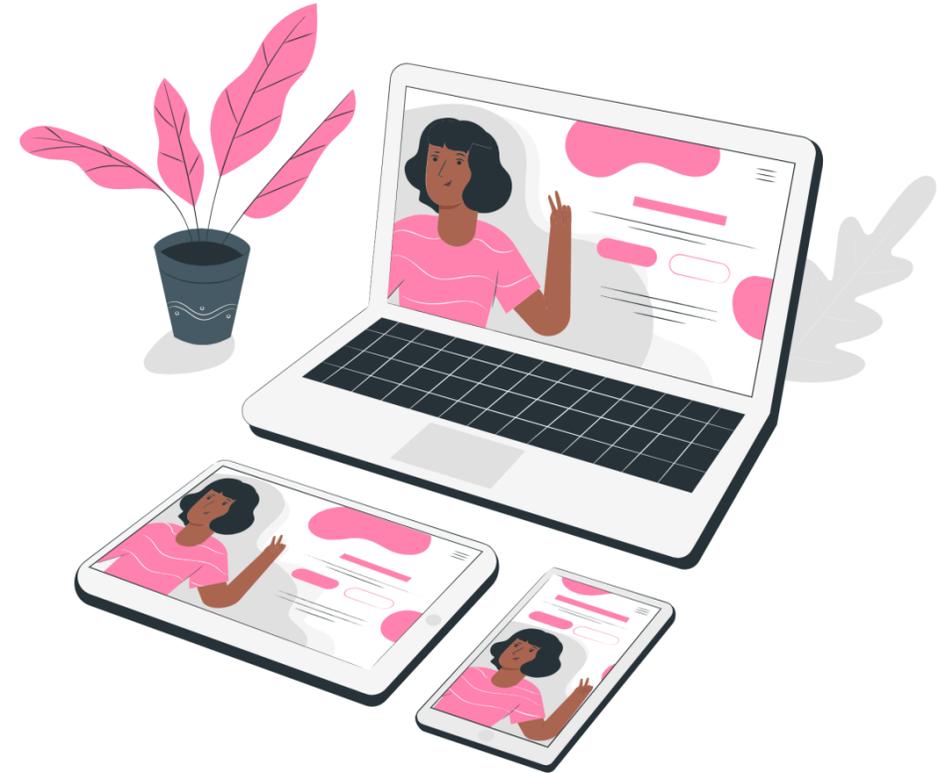
Example:

The manager of transportation, and head of the A3 process team, set the goal for patient transport time at 30 minutes, maximum. Once a month, for three months after the initial implementation, he would measure a sample of transportation pages, and calculate the average time from transportation page to patient arrival at the diagnostic department.

Step 7: Discuss With All Affected Parties



It's VITALLY important to communicate with all parties affected by the implementation or target condition, and try to build consensus throughout the process. We have included it as a specific step before approval and implementation to make sure it does not get skipped.



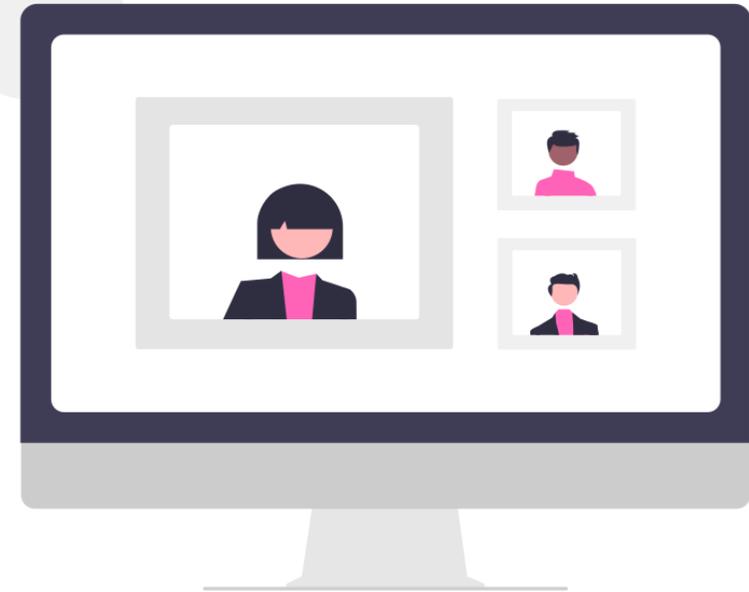
But the most successful process improvement projects we have witnessed do this step at each critical juncture. Concerns raised should be addressed insomuch as possible, and this may involve studying the problem further or reworking the countermeasures, target condition, or implementation plan. The goal is to have everyone affected by the change aware of it and, ideally, in agreement that the organization is best served by the change.

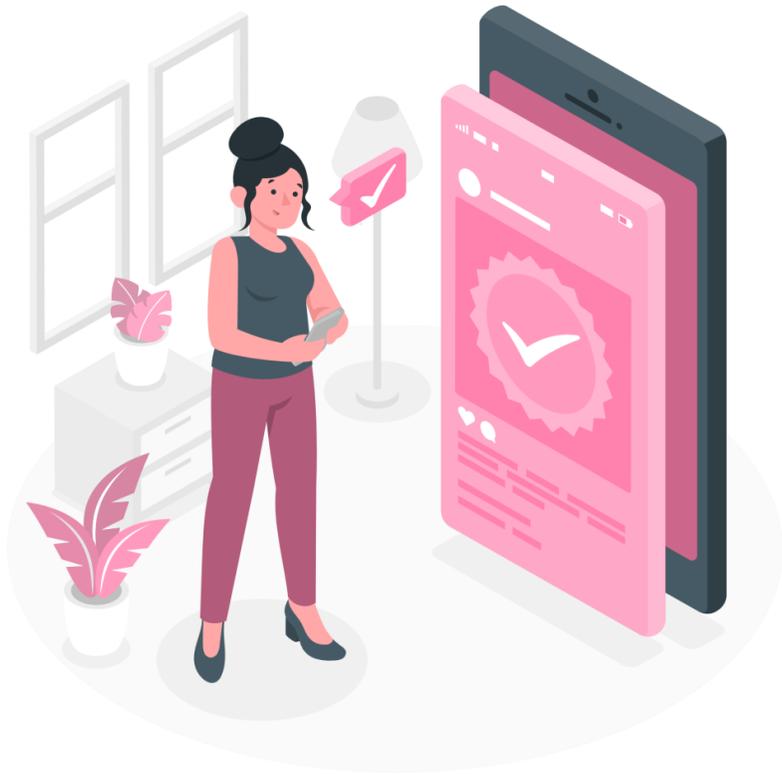
Example:

To make sure that all affected parties were involved in the process improvement effort, the manager of the transportation first gathered a cross-functional team together to study the problem and come up with countermeasures.



Then, once the countermeasures and target condition were created, he communicated with key representatives of the participating departments to a) solicit their agreement, and b) plan the education and training in the new systems.





In this case, only minor adjustments to the proposed changes were needed. The implementation plan then reflected the outcomes of those meetings.

Step 8: Get Approval



If the person conducting the A3 process is not a manager, it's imperative to remember the importance of obtaining approval from an authority figure to carry out the proposed plan. The authority figure should verify that the problem has been sufficiently studied and that all affected parties are “on board” with the proposal. The authority figure may then approve the change and allow implementation.

Example:

The manager of the transportation department was in a position to approve changes to procedures of the transporters, but he had to obtain approval for his changes and implementation from the managers of all of the affected departments. Ideally, his manager would have “approved” the change in order to provide a mentoring opportunity, but this did not happen in this case.

Step 9: Implementation

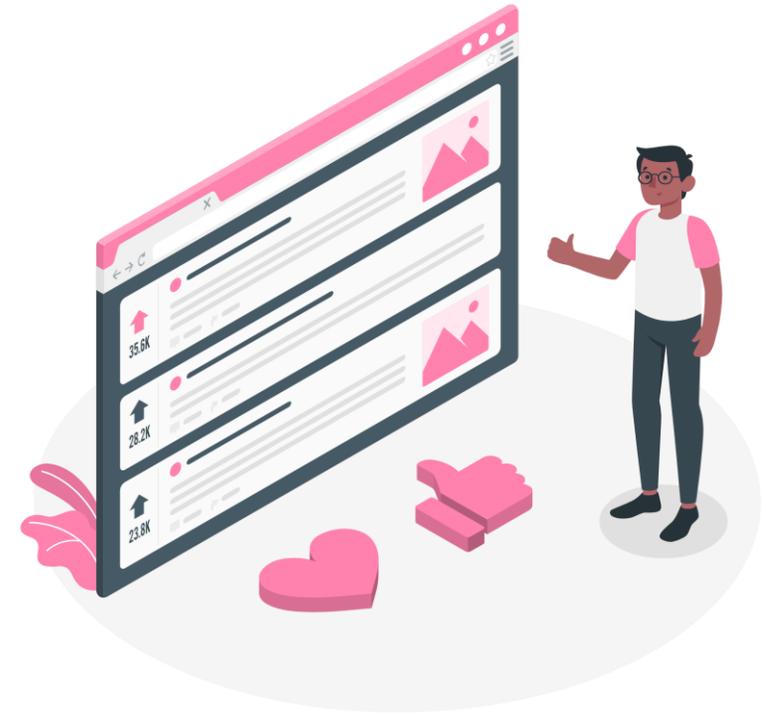


Without implantation, no change occurs. The next step is to execute the implementation plan.



Example:

The A3 process team had a meeting, charted their specific actions/tasks and deadlines in their implementation plan. once the proper approvals were given, they executed their designated tasks and completed them by the deadlines.



Step 10: Evaluate the Results



Process improvement should not end with implementation. It is very important to measure the actual results and compare to predicted. If the actual results differ from the predicted ones, research needs to be conducted to figure out why, modify the process and repeat implementation and follow-up (i.e., repeat the A3 process) until the goal is met.

Example:

The manager of transportation picked specific dates to check the outcome of the countermeasures and implementation plan created by the A3 process team. On three specific dates, he timed twenty patient transports from the initial page to patient arrival at the diagnostic department, and recorded the results with dates on the A3 report. The results were:

- March, 14.7 minutes
- April, 11 minutes
- May, 9.15 minutes

The A3 Report



Background <ul style="list-style-type: none">- Why do we need to work on this?- Context- Importance	Future State & Countermeasures <ul style="list-style-type: none">- Actions being taken to address the issue (what, who, when)- Quick fixes (Containment actions)- To Be process map
Current State <ul style="list-style-type: none">- Problem statement/definition- As Is process map- Scale of the problem (data)	Impact <ul style="list-style-type: none">- Results achieved- Trend graph (before/after)
Objective <ul style="list-style-type: none">- Target level of performance- Desired outcome	Follow-up <ul style="list-style-type: none">- Actions still required (what, who, when)- Learning points to share
Root Cause Analysis <ul style="list-style-type: none">- Fishbone diagram- 5 Whys- Data (Pareto, Scatter diagram)	

Title: **What you are talking about.**

Background

Why are you talking about it?

Current Situation

Where do we stand?

→What's the problem?

Goal

Where we need to be?

What is the specific change you want to accomplish now?

Analysis

-What is the root cause(s) of the problem?

-

Recommendations

What is your proposed countermeasure(s)?

Plan

What activities will be required for implementation and who will be responsible for what and when?

Follow - up

How we will know if the actions have the impact needed? What remaining issues can be anticipated?

Title: What you are talking about

initials

Owner

Background	
<i>Why you are talking about it.</i> <i>- What is the business reason for choosing this issue?</i>	
↓ ↓	
Current Conditions	
<i>Where things stand today.</i> <i>- What's the problem with that, with where we stand?</i> <i>- What is the actual symptom that the business feels that requires action?</i> <i>Show visually – pareto charts, graphs, drawings, maps, etc.</i>	
↓ ↓	
Target/Goal(s)	
<i>The specific outcome required for the business.</i> <i>- What is the specific change you want to accomplish now.?</i> <i>- How will you measure success?</i>	
↓ ↓	
Analysis	
<i>The root cause(s) of the problem.</i> <i>- Why are we experiencing the symptom?</i> <i>- What constraints prevent us from the goal?</i> <i>Choose the simplest problem-solving tool for this issue:</i> <i>- Five whys</i> <i>- Fishbone</i> <i>- QC Tools</i> <i>- SPC, Six Sigma, Shainin, Kepner Traego, others...</i>	

Proposed Countermeasure(s)	
<i>Your proposal to reach the future state, the target condition.</i> <i>- What alternatives could be considered?</i> <i>- How will you choose among the options? What decision criteria?</i> <i>How your recommended countermeasures will impact the root cause to change the current situation and achieve the target.</i>	
↓ ↓	
Plan	
<i>A Gantt chart or facsimile that shows actions/outcomes, timeline and responsibilities. May include details on the specific means of implementation.</i> <i>- Who will do what, when and how?</i> <i>Indicators of performance, of progress.</i> <i>- How will we know if the actions have the impact needed?</i> <i>- What are the critical few, visual, most natural measures?</i>	
↓ ↓	
Follow-up	
<i>Remaining issues that can be anticipated.</i> <i>- Any failure modes to watch out for? Any unintended consequences?</i> <i>Ensure ongoing P-D-C-A. Yokoten as needed.</i>	

Title

Name:
Coach:

Reason for choosing issue:

Brief

One or two bullets

Analysis

Visual

Charts

QC Tools

Fishbone

5 Whys

Current Conditions

Summary

Visual

Map?

Pareto?

Countermeasure Options

1) ??

2) ???

Problem Statement -

what's the actual pain/symptom
being felt? Just the facts

Evaluation of Options

Criteria

2)

Goal/Target Condition

Brief

One or two bullets

