Purpose of problem analysis is implementing a solution

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While I was interacting with a group of young engineers, the discussion veered to "what is the most valuable skill that they perceive will help them in excelling at workplace".

The answers that were received may be grouped as follows.

- Problem solving
- Data analysis
- Prioritising

Majority of the answers related to problem solving. More probing revealed that the young minds enjoy analysing and are talking about Plan part of PDCA cycle.

Generally, lot of focus is spent on analysing the data, finding out the root cause & developing possible solutions.

I remember an article that I read recently, which talked about Indian talent being good in analysing & creating solutions but takes back seat in execution.

Generally execution of a solution is felt as a slightly downgraded action in comparison to problem analysis & finding solution. This attitude may be traced back to our fascination to all things intellectual & our aversion to all things manual (actionable).

However, PDCA lays great emphasis on implementing the solution rightly.

One of the tools that may be used to evaluate the solution before implementing is "Solution Effect Analysis"

Solution Effect Analysis

What ?

Solution Effect Analysis is a way of brainstorming the consequences of implementing a solution

Why?

Solution Effect Analysis is used to evaluate solutions (in relation to problem being analysed) for any (negative/ positive) effect and to plan the implementation accordingly.

The purpose is to be aware of any side effects before implementing a particular solution.

When?

When an individual or, a team has arrived at potential solutions to eliminate root cause of the problem and is evaluating which solution should be implemented.

The timing should be when a solution has been determined and the implementation has not yet started.

How?

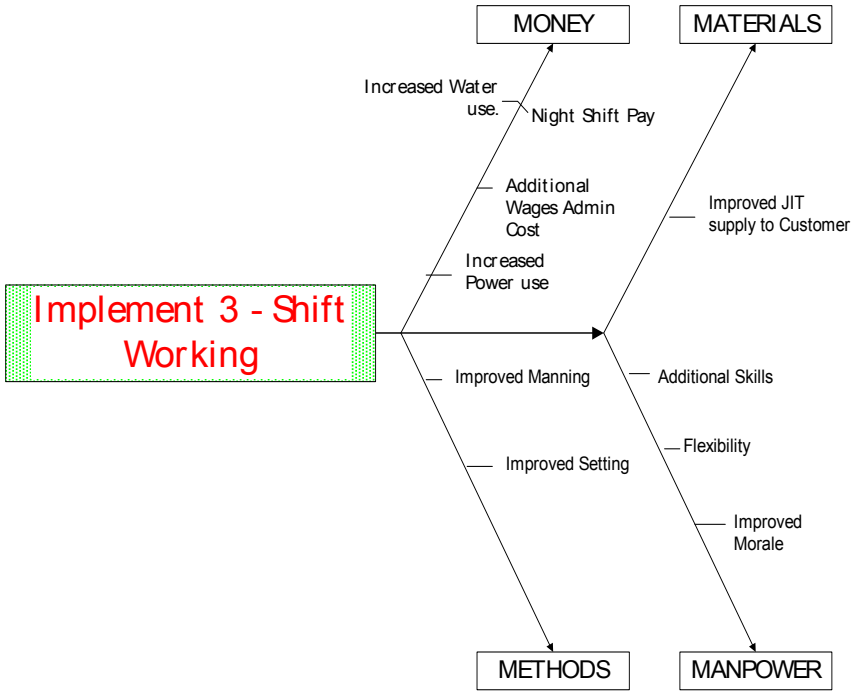
Solution effect diagram is similar in construction to cause & effect diagram.

There are four steps to constructing a solution effect diagram.

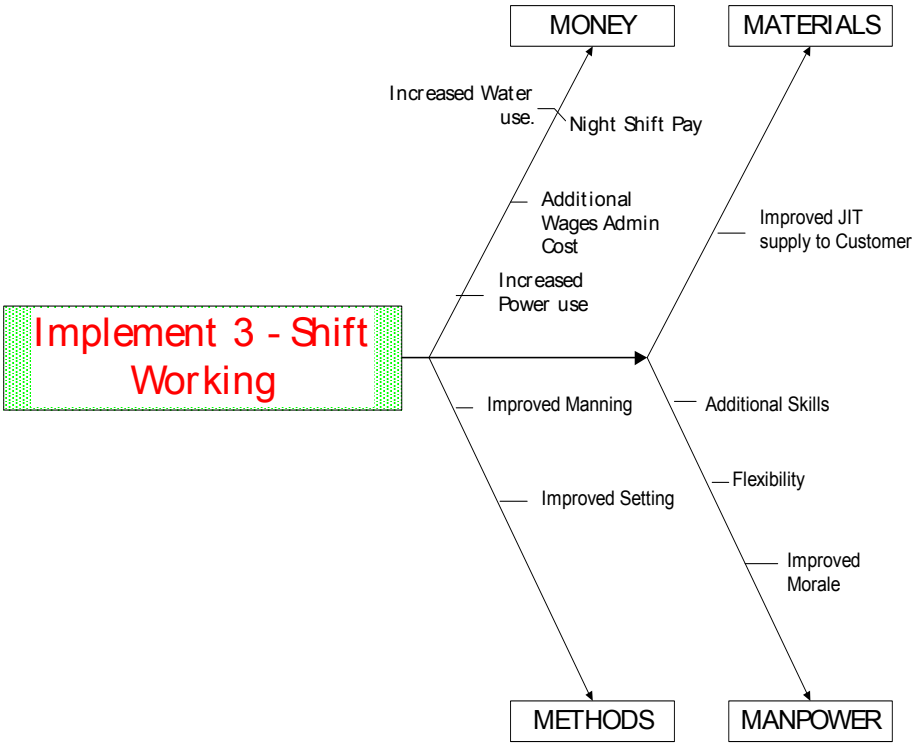
1. Brainstorm all possible effects of the solution being analysed.
2. Classify the effects under appropriate headings

(Example: man, materials, methods, machine)

3. Draw a solution effect diagram



4. Write the effects on the diagram under the classifications chosen.



Benefits

From this diagram, the key actions to ensure success can be identified and any potential "downsides" to the solution can be highlighted.

Solution effect analysis allows the implementation of change to be planned by identifying and removing any detrimental side-effects.

Resolution to behavioural issues related to changes being affected may be more effectively resolved with explanation from a Solution Effect Diagram.