MANAGING PROJECT USING 8D TECHNIQUE

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ABSTRACT

Across the globe thousands and thousands of projects are running from IT sector to power sector and automobile sector to infrastructure or real-estate, and we face number of problems during these projects. These problems may be a technical or non-technical or both. Were 8D technique helps us to overcome from these problems and provide long term prevention plans and it also help to learn and adapt the situation in a professional and controlled way.

This tool is much effective were common & repeated problems occurring. It has eight small steps to resolve not only complex problems but personal day-to-day problems too. This technique is highly disciplined and effective scientific approach and the technique provides excellent guidelines to identify the root cause of the problem, implement corrective actions, develop and then implement corrective actions and preventive actions to avoid recurring in future. Being a managers (all men and women who manages projects as project engineer, entrepreneur, home makers, teachers etc.) we must adopt this tool to avoid reoccurring of problems.

Key words: 8D process, Projects, Re-occurring Problems.

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1. INTRODUCTION

8D is an abbreviation for using eight discipline of problem solving technique, The original concept was designed by Ford motors for solving complex problems in their works, the whole concept was initially published in 1987 in ford motor manual as Team Oriented Problem Solving (TOPS). Whole concept can be used for identifying, correcting & preventing of re occurrence of problems.

Before going to the depth of 8d process, we must know what is problem? Problem can be defined as gap between target and achieved level. This gap can be reduces or eliminate by using many scientific techniques such as Six sigma, FMEA, Ishikawa methodology, periodic auditing etc. Then why should we prefer 8d problem solving technique? It is approved scientific process, the process forms by combination of seven quality control tools & six sigma methodologies, it is easy to learn, required short period of time to analysis and the whole concept was divided into four different level as exhibited in table 1, and the process exhibits in flowchart 1.
Table 1 Different levels of 8D process

<table>
<thead>
<tr>
<th>Sl no.</th>
<th>Level</th>
<th>Process or phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D 1 to D 3</td>
<td>Contains</td>
</tr>
<tr>
<td>2</td>
<td>D 4</td>
<td>Analysis</td>
</tr>
<tr>
<td>3</td>
<td>D 5 to D 6</td>
<td>Correction</td>
</tr>
<tr>
<td>4</td>
<td>D 7 to D 8</td>
<td>Prevent</td>
</tr>
</tbody>
</table>

Flow chart 1 Process mapping of 8D technique

From the below exhibited table 2 you can analyze impact of re-occurring of problems in market leaders

<table>
<thead>
<tr>
<th>Year</th>
<th>Category</th>
<th>Problem Description #</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>FMCG</td>
<td>Company recalled chocolate from 55 different countries, after a German customer found plastic in a snickers bar in February</td>
<td>Mars Incorporated</td>
</tr>
<tr>
<td>2015</td>
<td>Instant food</td>
<td>India’s central food safety regulator FSSAI had banned the Maggi instant noodles, millions &amp; millions of packets are recall from market, due to high %age of msg.</td>
<td>Maggi</td>
</tr>
<tr>
<td>2013</td>
<td>Automobile</td>
<td>Inconsistencies in emission norms observed and 1.14 lakh units recalled .its 280 dealers all over India would undertake the replacement free of charge for vehicles sold between 2005-13 in addition to facing a fine of Rs.3.4 Cr .</td>
<td>General Motors India (Tavera MPY BS 3 &amp; BS 4)</td>
</tr>
</tbody>
</table>
Managing Project using 8D Technique

<table>
<thead>
<tr>
<th>Year</th>
<th>Sector</th>
<th>Event</th>
<th>Company/Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Aviation</td>
<td>US federal aviation administration decision to ground Boeing 787 which had a major financial impact for the airplane manufacturer</td>
<td>Boeing (Lithium–Ion Batteries of Airplanes)</td>
</tr>
<tr>
<td>2008</td>
<td>Gadgets</td>
<td>Company recalled 440000 products VAIO type TTZ series due to excessive heat production, the product was manufactured between May 2007-July 2008</td>
<td>Sony VAIO</td>
</tr>
<tr>
<td>All times</td>
<td>Transport</td>
<td>In last 1 year the fare of railways has been increased 2 times, but still trains are Messi, over crowded, and their reservation starts 2 month earlier. so Indians railways earns money 1 ½ month before it deliver service, but still every time it remains in loss and the brand image is “late to hanahem hai”.</td>
<td>Indian Railway</td>
</tr>
<tr>
<td>2007</td>
<td>Telecom</td>
<td>Nokia recalled 46 Million BL-5C batteries after a primary investigation which revealed faulty manufactured batteries by Matsushita Electric Corporation which could explode after short circuit</td>
<td>Nokia</td>
</tr>
</tbody>
</table>

Table 2 Impact of re-occurring of problem in market leaders.

From the table it is clear that if you ignore re-occurring of problem, it becomes bigger complex and may leads to destroy brand name, brand image and loss of revenue, many more examples such as, Kingfisher airlines, SAHARA India, medical drugs (fixed dose combination drugs- Nimesulide, are banned.

2. NEED OF THIS PAPER
The main aim of this paper is to deliver the fundamental steps of 8D processes to the world to avoid and eliminate re-occurring of problem, which lead to loss of time, money, man-hours, and increasing unnecessary tension. Many organizations (Eaton, General Electric, Ford) across the globe from IT sector to manufacturing, EPC to project sites are using and adopted this technique to increase their percentage of quality assurance.

As I believe still this methodology was not being used in our country India, although re-occurring of problem in our country is very common, most of the time we neglect small problems as a problem, example leakage of tap water, minor accidents at work place (loss of man-hours), and having a concept of repair and use. We never wants to know, why it happened, what is the root cause, how to eliminate re-occurring problems. If any incident happened we just blame gaming. Which is I’ll legal as per corporate ethics.

Note: “choti choti samasya ek din badi ban jati hai”

3. FUNDAMENTAL STEPS
3.1. (D-0) Prepare for the 8D Process
This is the first step to move towards 8D process, in this stage following this to be done.

- What is the problem?
- Nature of the problem?
- Were it happen (Note date, time and place).
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- Which team is working on specific time & place?
- If problem related to product then you must mention maker’s name, type of product, mention serial no. and capacity.

Note: “A good examine can cure fast and batter”.

3.3. (D-1) Define the Team
Following steps involves in this stage.

- Prepare a team of 6 to 8 members from different levels (technician to project manager).
- Identify the team leader (while selecting team do not conceder designation of employee).
- Define role and responsibility of each individual.
- Set a target date to complete.
- Set review meetings.

Note: “Two heads are better than one”

3.4. (D-2) Describe the problem – Once the team is set, apply following steps.

- Clear define the problem to each and every team member.
- Specify the questions using 5W2H.
  
  What is problem? What’s wrong with the process?
  Where does the problem occur?
  When does the problem occur?
  Who is responsible for the process?
  Why does the problem occur?
  How did it go wrong?
Managing Project using 8D Technique

How many are affected or how bad is the problem?

Note: “Ask question as much as possible”

3.5. (D-3) Implement and verify interim containment actions – Once the problem is identified, do the following steps.

- Provide a temporary solution.
- Hold the work and isolate the area.
- Make a brainstorming session and record.

Note: “Be a first aider”

3.6. (D-4) Identify and verify Root Causes

Once the problem is temporary fix, following steps to be done.

- Analysis the records of a brainstorming session one by one
- Identify the mistake.
- Breaking the process into smaller segments, which allow detailed investigation.
- Perform a root causes analysis use Ishikawa methodology, Why Why analysis, process mapping, control charts, check lists etc.
3.7. (D-5) Define and select corrective actions

- Solution should be practical.
- Solution should be feasible
- Solution should be cost-effective
- Solution should not fail during production
- Solution should be implemented to all affected facilities in the company or organization

Note: “It is necessary to find roots”

3.8. (D-6) Implement permanent corrective actions – one of the most important stage of 8d problem solving technique, you must implement all the action to avoid repetition of problem.

- Implement the action plan in your routine work.
- Quality checks
- Review and monitor result on every week/ fortnight or monthly basis.

Note: “Apni galti se hi to seekhoge kuch naya”

Note: “Find you’re eureka movement”
3.9. (D-7) Prevent Recurrence
Be aware that this phase was not related to rectify or correcting the system, it is for preventing the problem form occurring in future.

Discuss the problem & method of solving with entire team from top level to bottom level of person.

• Update the procedure.
• Update manuals & standard documents.
• Arrange training for all.

Note: “Remove from the roots”

3.10. (D-8) Recognize the team and share lessons learned
This is the final stage of 8d problem solving technique, As its name reflects, you need to congratulates to all the team member (including non-active members, not directly involved in this).

• Must remember what you have done wrong in earlier.
• Share lesion learn document to each & every member.
• Motivate the team “YES WE CAN DO”.
• Recognize the Team’s efforts.

Note: “Be child to learn and adapt”

4. DISADVANTAGES OF TRADITIONAL PROBLEM SOLVING MODEL.
• Try to pursue a solution as quickly as possible.
• Focus on correction only and not for prevention.
• Results are based on past experience.
• Decision based on personal judgment.
• Huge resources, time and money involvement.
• No opportunity for learning and adapt.
• The implemented solution is not always the best one, problem can reoccur.

5. ADVANTAGES OF 8D METHODOLOGY
• Scientific method.
• Systematic approach towards problem.
• Group of people involve taking decision.
• Easy to implement.
• Provides long term prevention plans.
• At the end you motivate your team to learn and adapt.

6. CONCLUSION
From my personal experience of problem solving using this methodology is the best, because two scientific methodologies are combined in this, quality control tools and six sigma methodologies. It’s my advice to all projects manager to implement this at works place and forget everything, NO re-occurrence of problem you will phase. Rework & delay in a project leads to loss of both time & money. As I concern time and money is the secondary thing in the project, if the similar problem occurs at customer end frequently or regular basis, then the company or organization definitely lose their brand image and may lose customer faith also. (*It takes time to build relationships, but not to destroy*). Best part of this technique is, at the end you motivate your team to learn and adapt.

Golden Rule of Business
“*If we keep our customer happy, they will keep us in business*”

All the project managers are requested to adapt PCDCA (plan check do check act) technique, planning is the backbone of any task to be perform, if planning fails then you will definitely face following problems loss in production, stakeholders loss, rework, delay, loss of time & money, man-hours loss etc. To avoid such conditions please ensure to recheck your planning & then move further, PCDCA cycle is exhibited as fig 1. In this cycle each colour having a specific meaning, which is explained in exhibited table 3.

![PCDCA Cycle](image)
## Table 3 Specification of PCDCA.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Sketch your project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) In this phase, clear picture of project should be viewed to everyone from stakeholder to project execution team, 2) It is also important to know, what, how, when, were, by whom. 3) Maximum risk involves. 4) Minimum cost involves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Check</th>
<th>Most critical phase in project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Cross-check you’re planning to avoid delay/rework/cost saving/man-hour loss/safety/Risk assessment/training etc. 2) Maximum risk involves. 3) Minimum cost involves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do</th>
<th>Everything is OK, go ahead</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Execute the work with safety guidelines. 2) Moderate risk &amp; cost involves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Check</th>
<th>Critical phase of project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Cross check your work to avoid future accidents. 2) Moderate risk &amp; cost involves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Act</th>
<th>Raise your voice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) If you find anything wrong while executing the work. Then please Act immediately to avoid similar situation in future. 2) It also helps to find RCA &amp; CAPA. 3) Minimum risk involves. 4) Maximum cost involves.</td>
</tr>
</tbody>
</table>

## REFERENCE


