PDCA

The Plan-do-check-act cycle is a four-step model used for carrying out change

- The PDCA cycle mainly aims to establish a continuous model for the continuous improvement of processes by identifying the problems
- PDCA is a model that is useful for any learning process and improvement

PDCA

Features

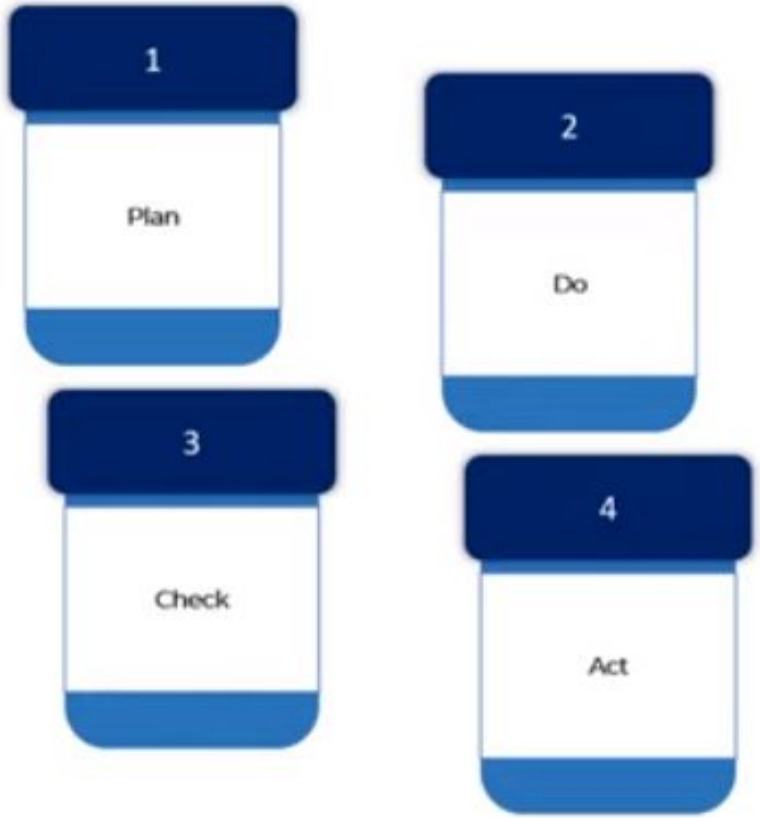
1. A simple and effective approach for solving problems
2. Helpful for implementing Total Quality Management or Six Sigma
3. Used in companies of all sizes to improve and optimize management
4. The iterative approach allows control and analysis
5. It encompasses much of the same framework as strategic management

Benefits

1. Greater efficiency and effectiveness
2. Useful for testing improvement measures on a small scale
3. Makes the decision-making by managers easier
4. Improves project risk management
5. Can be helpful in all situations

PDCA

How to build PCA?



Examples

Consider a manufacturing industry who want to produce a new product, then PDCA can be used as:

FMEA-
Failure Mode and Effects Analysis

FMEA

FMEA documents current knowledge and actions about the risks or failures to bring continuous improvement in their workplace

- Failure Mode and Effects Analysis (FMEA) is a structured approach that is used to discover potential failures that may exist within the design of a product or process
- Failure modes are one of the ways in which a process can fail
- Effects are one of the ways that these failures can lead to many wastes, defects, or harmful outcomes for the customer
- So, Failure Mode and Effects Analysis is designed mainly to identify, prioritize and limit these failure modes

FMEA

Features

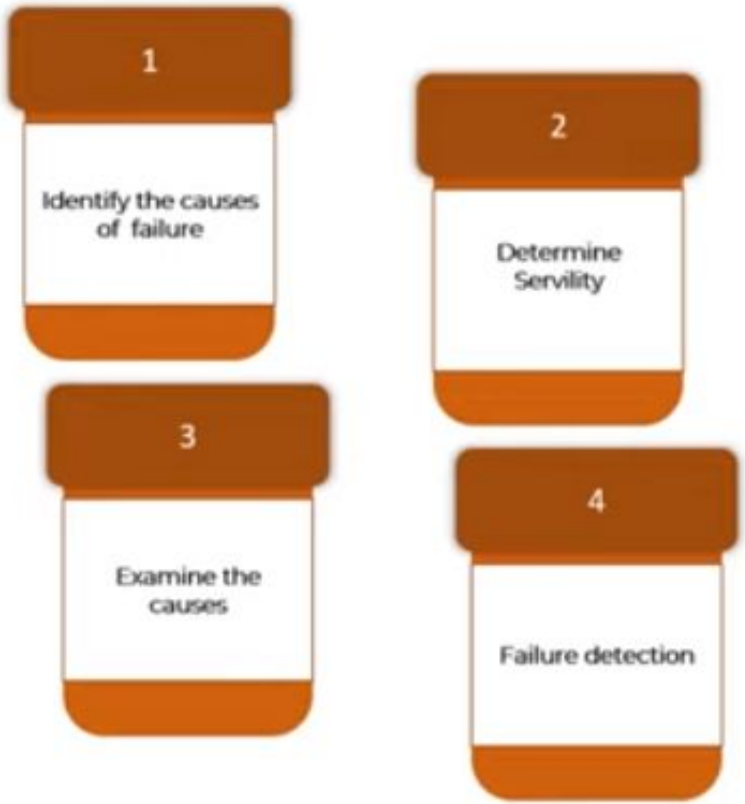
1. It provides a structured approach for evaluating, tracking, and updating the design
2. A systematic, proactive method for evaluating a process
3. Tool for improving both product and process design
4. It is a qualitative and systematic tool
5. Most effective low-risk techniques for predicting problems

Benefits

1. The higher capability of Verification and Validation of changes
2. Helps to find the possible causes of failures
3. Improved Design for Manufacturing and Assembly (DFM/A)
4. Lower cost solutions
5. Helps to document and identify wherein a process lies

FMEA

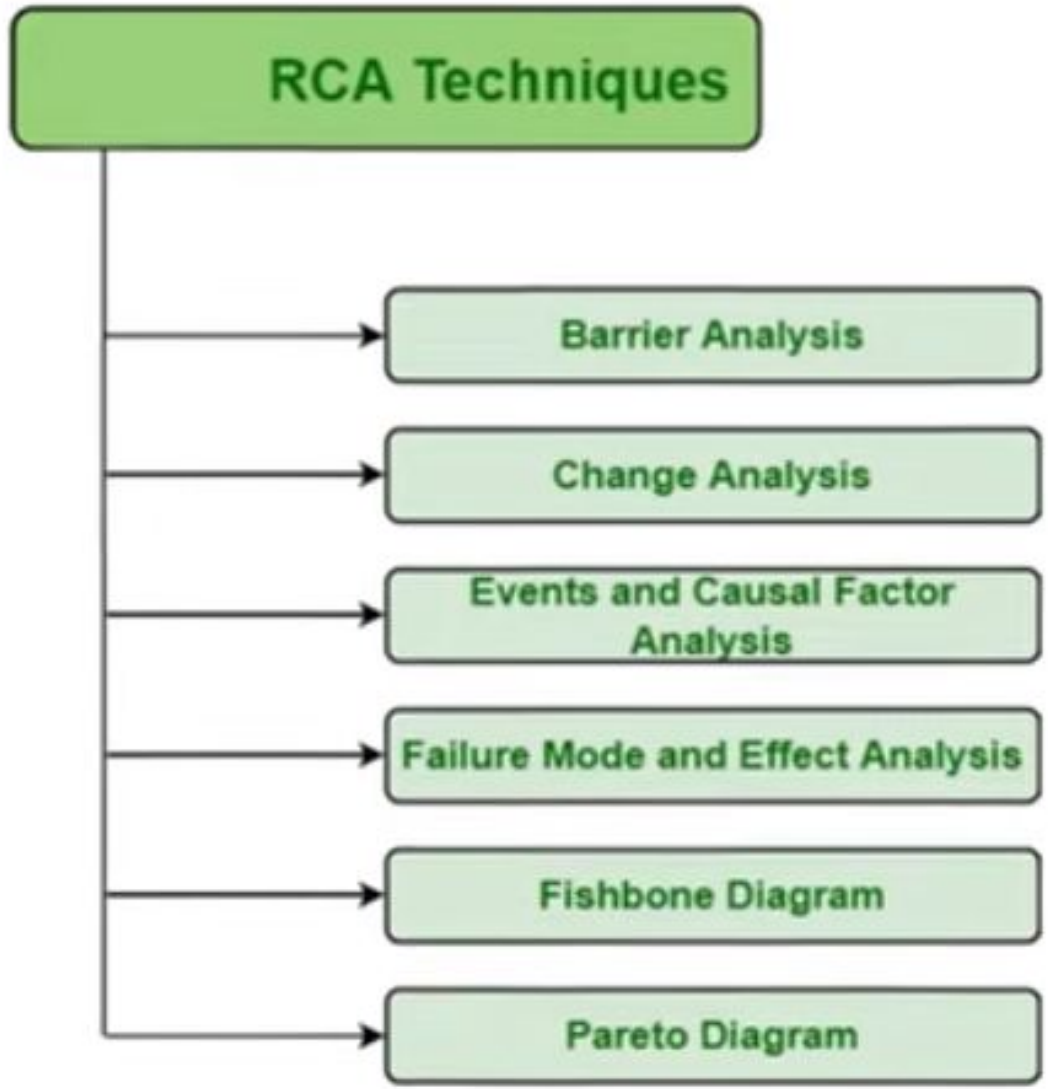
How to build PCA?



Example

Process	Severity (1-10)	Probability of occurrence (1-10)	Probability of detection (1-10)	Risk Preference Number (RPN)
Coffee beans ability to get powdered	5	2	4	40
Appropriate ratio of coffee and milk	5	8	9	360
Mixing ability of coffee Maker	3	9	7	189

Most of the failure is seen in the second process


RCA Techniques
Barrier Analysis
Change Analysis
Events and Causal Factor Analysis
Failure Mode and Effect Analysis
Fishbone Diagram
Pareto Diagram


Thank
you