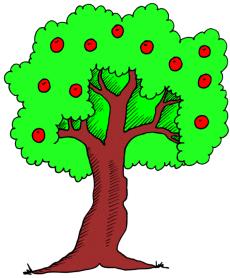


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The Continuous Improvement Map

| Managing | Decid | ing & Selecting | Plann | ing & Project Management* |
|--|---------------------------------|-----------------------|--------------------------------|----------------------------------|
| Risk PDPC | Decision Balance She | et Importance-Urgen | cy Mapping <u>Da</u> | aily Planning PERT/CPM |
| FMEA RAID Log* | Force Field Analysis | Cost Benefit Analy | sis <u>MOST</u> | RACI Matrix Activity Networks |
| Risk Assessment* | Break-even Analysis | Voting TPN Analys | sis <u>SWOT</u> A | Analysis Stakeholder Analysis |
| Fault Tree Analysis | ecision Tree Pick Cha | art Four Field Matri | x Project Cha | arter Improvement Roadmaps |
| Traffic Light Assessment | Critical-to Tree QFE | D Portfolio Matrix | PDCA | A Policy Deployment Gantt Charts |
| Lean Measures Kar | no Analysis Matrix Diagra | m Paired Comparison | DMAIC Kaize | en Events Control Planning |
| Bottleneck Analysis** C | ost of Quality* Pugh Matrix | | A3 Thinking | Standard work Document control |
| OE Process Yield | E <u>KPIs</u> Pareto Ana | | lerstanding | Cross Training Implementing |
| | scriptive Statistics ANOV | | ise & Effect | Value Analysis Solutions** |
| Pr Gap Analysis* | robability Distributions Hy | pothesis Testing Desi | gn of Experiment | Mistake Proofing Ergonomics |
| Histo | ograms & Boxplots Multi | vari Studies Confide | nce Intervals Sir | mulation TPM Automation |
| Reliability Analysis Understanding | aphical Analysis Scatter | Plots Correlation | Regression | Pull Flow Just in Time |
| Performance MSA | Run Charts 5 Whys | Root Cause Analysis | Data Snooping | Visual Management 5S |
| Benchmarking** Co | ontrol Charts Fishbo | ne Diagram Tree Diagr | am* SIPOC* | Waste Analysis Quick Changeover |
| Data collection planner* Sampling Morphological Analysis How-How Diagram** Process Redesign Time Value Map | | | | |
| Check Sheets Interview | _{vs} Brainstorming SCA | MPER** Attribute Ana | al <mark>ysis Spaghetti</mark> | Diagram Value Stream Mapping |
| Questionnaires Focus | Groups Affinity Diagram | Relationship Mapp | oing* Flow Pro | ocess Charts Service Blueprints |
| Data | Mind Mapping | g* Lateral Thinking | Flowcharting | IDEF0 Process Mapping |
| Collection Observ | Suggestion system | ns Creating Ideas | Design | ning & Analyzing Processes |

- Once you have discovered why a problem occurs, you then need to find a permanent solution to the problem.
- In many cases, you don't even need to analyze the root causes of a problem.
- □ You just need to solve the problem right away.
- These low hanging fruits may be quick wins or larger projects that may involve capital expenditure.





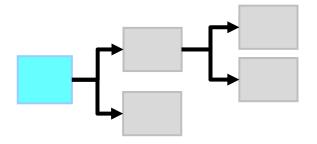
For example, after reviewing a process, you may have identified non-value added activities that you want to reduce or eliminate.

Other examples:

- Modify a procedure.
- Train employees.
- Improve management reports.
- Error proof a process.
- Change workplace layout.
- Infrastructure initiatives.



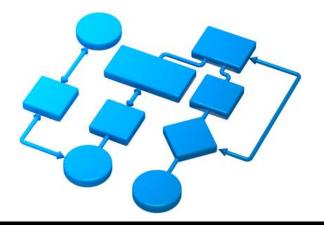
- How-How Diagram is used when seeking a practical solution to a problem.
- It works by repeatedly asking: 'How can this be solved?'.



- It provides an effective structure for organizing and sequencing possible options as well as the rewards and risks associated with each option.
- At each stage, there might be multiple answers to the 'How' questions, and the result is a hierarchical tree-structure.

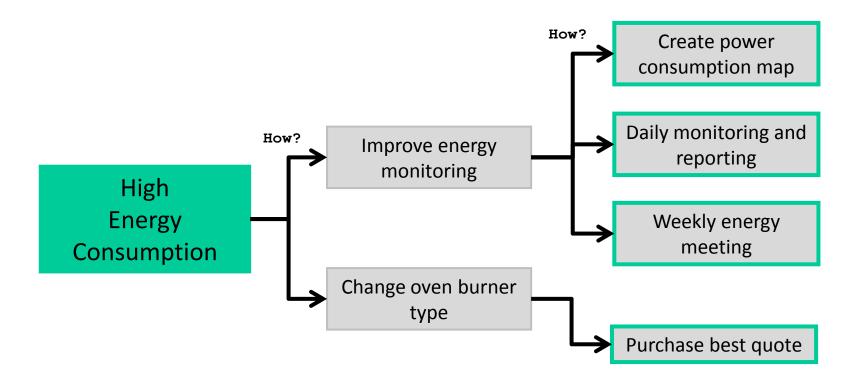
Drawing the Diagram:

- □ State the problem clearly then write it on a post-it card.
- □ Place it to the left of a large work area on the wall.
- □ Ask 'How can this problem be solved?'.
- Let the team write their answers on a post-it, then stick them up.
- □ Repeat this sequence of breaking down the problem once more.
- Keep asking "How" until you have no more answers or until you are satisfied with the improvement ideas.
- Prioritize then select the key and applicable solutions to implement.

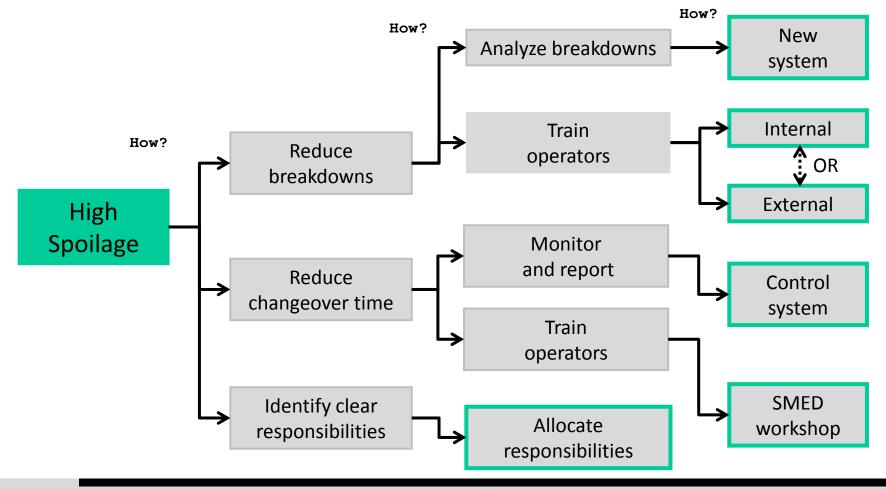




Example – Reduce the Amount of Energy:



Example – Identify Ways to Reduce Spoilage:



Further Information:

- It is similar to the 5 Why's but a different question is asked (an adaptation of the root cause analysis).
- It is especially useful when creating or exploring a plan of action.
- It helps to break down the solution into more explicit elements.
- It shows a range of possible solutions all in one place.

