Continuous Improvement Toolkit

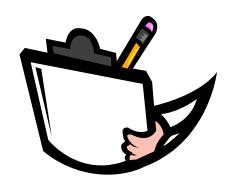
Check Sheets



The Continuous Improvement Map

Managing	Deciding & Selecting Plannin	ng & Project Management*
Risk PDPC	Decision Balance Sheet Importance-Urgency Mapping Dail	y Planning PERT/CPM
FMEA RAID Log	* Force Field Analysis Cost Benefit Analysis MOST	RACI Matrix Activity Networks
Risk Assessment*	Break-even Analysis Voting TPN Analysis SWOT Analysis	alysis Stakeholder Analysis
Fault Tree Analysis	Decision Tree Pick Chart Four Field Matrix Project Chart	ter Improvement Roadmaps
Traffic Light Assessme		Policy Deployment Gantt Charts
Lean Measures	Kano Analysis Matrix Diagram Paired Comparison DMAIC Kaizen	Events Control Planning
Bøttleneck Analysis**		tandard work Document control
Process Yield	OEE KPIs Pareto Analysis C&E Matrix Understanding C	Cross Training Implementing
	Descriptive Statistics ANOVA Chi-Square	/alue Analysis Solutions**
Capability Indices	Probability Distributions Hypothesis Testing Design of Experiment	Mistake Proofing Ergonomics
	. A D. L. A. Maddingoni Otrading	ulation TPM Automation
		Pull Flow Just in Time
Understanding Performance		/isual Management 5S
Benchmarking**		aste Analysis Quick Changeover
Data collection planner		ss Redesign Time Value Map
Check Sheets Interv		viagram Value Stream Mapping
Ougationnairea		ess Charts Service Blueprints
Data	Mind Mapping* Lateral Thinking Flowcharting	IDEF0 Process Mapping
Collection Obs	pervations	ng & Analyzing Processes

- Manual data collection forms.
- Used to collect data in real time at the location where the data is generated.
- It could be used on a temporary basis (projects)
 or be established for routine activities.



Benefits:

- Enable faster capturing and compiling of data.
- Allow the data to be recorded in a consistent manner.
- Enable capturing essential contextual and descriptive information that otherwise may be overlooked or forgotten.

Types:

- □ Failure Check Sheets: used for collecting failure information at specific process steps.
- □ Visual Check Sheets (Measles Charts): use pictures of the process or product to record where an event occurred.
- **□** Traveler Check Sheets:
 - A traveler check sheet stays with the product or service throughout the entire process
 - Used when collecting process lead times.
- **□** Tally Charts.
- Checklists.



Tally Charts:

- Tables that record the frequency with which different events are observed.
- □ The collected data is quickly understood as it is displayed in an easy-to-count groups of five.

	1	2	3	4	5
Α	//		///	/	
В	/	//	////	///	//
С		/	/		
D	//		//		/

Common applications:

- Capturing data related to customer complaints
- Counting the defects produced by any single machine.

Defect	Tallies	Total
Defect 1	 	8
Defect 2	III	3
Defect 3	Ш	5
Defect 4	 	13

Checklists:

- A checklist is simply a list of tasks to be performed.
- It includes small check boxes next to each task.
- Listed items are ticked off as they are executed or when they are available.
- It compensates for the limitation of human memory and attention.

Common examples:

- To-do lists.
- Safety checklists.
- 5S checklists.

Measles Charts:

- Practical visual tools for collecting data.
- □ They simply show the failures or events on a drawing or a picture.
- They help analyzing the location and the density of failures or events in a product or a process.
- □ They answer the question: "where the failures are located" or "where the events took place?".
- Common examples:
 - Defect locations in a product.
 - Most confusing sections in a returned application.





How to Construct a Check Sheet:

- Specify the data to be collected and the factors to be included.
- Determine the appropriate time period to collect the data.
- Simply list the issues you are tracking and leave space to allow writing whenever someone finds an issue or failure.
- Add columns as needed for other data, such as delay times, defects, etc.
- □ Try it first.
- Encourage recording contextual data for tractability (dates, names, etc.).

Example - Incoming Material Inspection Form:

Material Inspection Form						
Coil #	Supplier	Scratch	Dent	Pin hole	Other	Date Inspected
110424	Hydro					
310424	Alcan	X			X	
310426	Alcan		X			
110436	Hydro				X	
200122	Wise		X	X		
410351	Novelis					
201133	Wise			X		
200292	Wise	X		X		

Example – Traveler Check Sheet:

Online Ordering Process				
Order #:	Customer location:			
Order:				
Payment amount:		Date:		
Process Step	Time	Issues		
Order Taking	2.25 minutes			
Order Preparation	6.50 minutes			
Order Packing	1.75 minutes			
Delivery	14.3 minutes			