

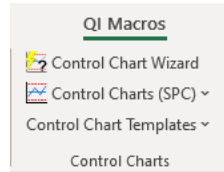
# Installation Made Easy!

# QI Macros® Quick Start Card

# Improvement Project Wizard

## PC

Name	Type
QI Macros Setup	Application
qimacros-30-day-trial	Application



Double Click on Installer & Use the Default Prompts

Open Excel – See the Menu

## Mac

Name	Type
QIMacrosMac	Compressed (zipped) Folder
QIMacrosTrialMac	Compressed (zipped) Folder



Excel 2019-2021/Office 365



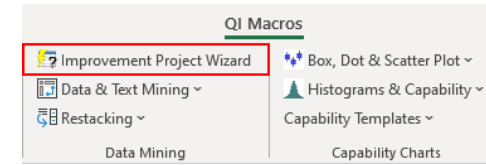
Double Click on Installer & Use the Default Prompts

Open Excel – See the Menu

Once installed, menu will appear in Excel as such:



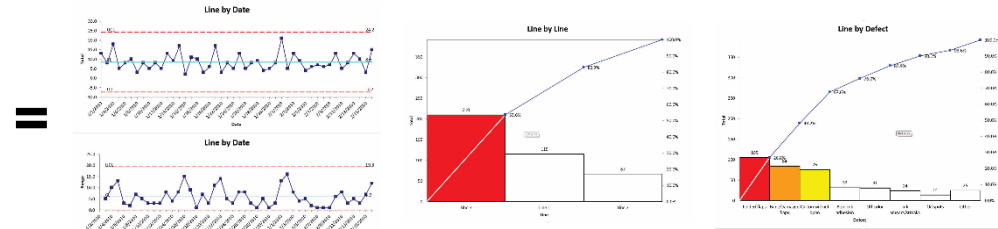
	A	B	C
1	Date	Line	Defect
2	1/2/2010	Line 2	Bent/Damaged flaps
3	1/2/2010	Line 2	Carton will not open
4	1/2/2010	Line 3	Folded flaps
5	1/2/2010	Line 3	Folded flaps
6	1/2/2010	Line 3	Off color



Select Data

Documents/QI Macros Test Data/pivottable.xlsx

Click Menu

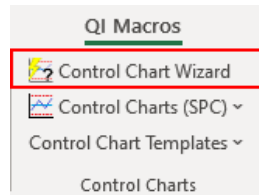


Results and Analysis

# Control Chart Wizard

# Stat Wizard

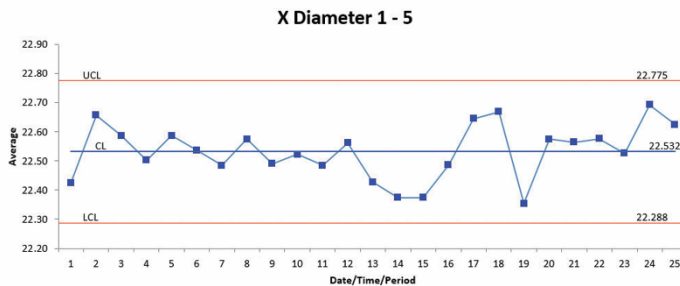
	A	B	C	D
8	22.30	22.54	22.01	22.62
9	22.86	22.68	22.43	22.58
10	22.88	22.68	22.46	22.30
11	22.44	22.66	22.48	22.37
12	22.59	22.65	22.78	22.58



Select Data

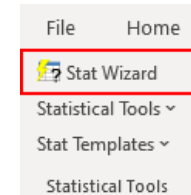
Documents/QI Macros Test Data/AIAG SPC.xlsx

Click Menu



Chart

	A	B	C	D	E
	Hardwood Concentration				
1	%	5%	10%	15%	20%
2	Obs1	7	12	14	19
3	Obs2	8	17	18	25
4	Obs3	15	13	19	22
5	Obs4	11	18	17	23
6	Obs5	9	19	16	18
7	Obs6	10	15	18	20



Select Data

Documents/QI Macros Test Data/statistical.xlsx

Click Menu

ANOVA		Reject Null Hypothesis because $p < 0.05$ (Means are Different)				
Source of Variation	SS	df	MS	F	P-Value	F crit
Between Groups	382.7917	3	127.5972	19.60521	0.000	3.098391
Within Groups	130.1667	20	6.508333			
Total	512.9583	23				

Results and Analysis

## Capability Analysis

## Lean Six Sigma Templates

	A	B	C	D
1	Sample	Obs 1	Obs 2	Obs 3
2	S1	265	205	263
3	S2	268	260	234
4	S3	197	286	274
5	S4	267	281	265
6	S5	346	317	242

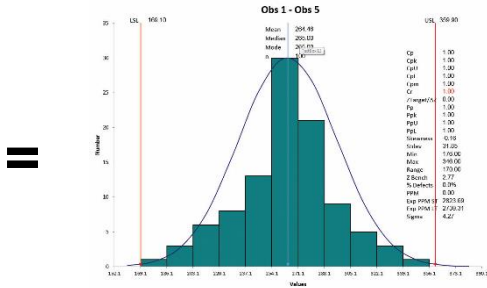


QI Macros

- Box, Dot & Scatter Plot
- Control Chart Wizard
- Histograms & Capability
- Control Charts (SPC)
- Capability Suite
- Templates
- Histogram Cp Cpk (Normal)**
- Histogram Cp Cpk (Between/Within)
- Histogram Weibull (Non-Normal)
- Frequency Histogram
- Descriptive Statistics

Select Data

Documents/QI Macros Test Data/pivottable.xlsx



Click Menu

Cp 0.95  
Cpk 0.95  
CpU 0.95  
CpL 0.95

Histogram with Cp and Cpk

QI Macros

- Improvement Tools
- Improvement Project Wizard
- Box, Dot & Scatter Plot
- Control Chart Wizard
- Ishikawa Fishbone Diagram**
- Cause Effect Matrix
- 3 Legged 5 Whys
- Histograms & Capability
- Capability Templates
- Control Charts (SPC)
- Control Chart Templates
- Control Charts

Click Menu

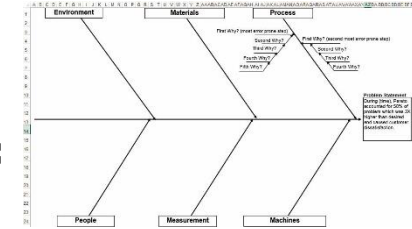
Problem Statement: During (time), Pareto accounted for 50% of problem which was 3X higher than desired and caused customer dissatisfaction.

Process: First Why? (most error prone step), Second Why?, Third Why?, Fourth Why?, Fifth Why?, Second Why?

Fishbone Style -> Healthcare

Buttons: Clear, Create Fishbone, Sample, Copy, Reset

Enter Text and Select "Create Fishbone"



Ishikawa/Fishbone Template

## Gage R&R Template

## Text Analysis

QI Macros

- Improvement Tools
- Improvement Project Wizard
- Gage R&R FMEA
- Data & Text Mining
- 8D Report
- A3 Report
- APQP Checklists
- Control Plan
- Design of Experiments
- MEA - Error Modes Effects Analysis
- FMEA 5th Edition - Failure Modes Effects Analysis
- FMEA 4th Edition - Failure Modes Effects Analysis
- Failure Prevention Analysis
- Gage R & R - MSA**



Gage R&R				
Average & Range Method	P1	P2	P3	
Appraiser 1	Trial 1	3.6396	3.936	3.645
Enter your data here->	Trial 2	3.5753	3.33	3.682
	Trial 3			
	Trial 4			
	Trial 5			
	Total	7.2143	7.666	7.726
	Average	3.6074	3.933	3.663
	Range1	0.0643	0.005	0.037
Appraiser 2	Trial 1	3.5963	3.918	3.95
Enter your data here->	Trial 2	3.8287	3.907	3.843
	Trial 3			
	Trial 4			
	Trial 5			
	Total	7.2163	7.825	7.639
	Average	3.6085	3.913	3.85
	Range2	0.0404	0.012	0.002
Appraiser 3	Trial 1			
Enter your data here->	Trial 2			
	Trial 3			
	Trial 4			
	Trial 5			
	Total			
	Average	#N/A	#N/A	#N/A
	Range3	#N/A	#N/A	#N/A

Click Menu

Measurements

Using Gage system may be acceptable based on importance of application and cost. Gage may need maintenance, redesign, or better clamping.

Component	% of Total Variation (TV)
Equipment Variation (EV) <td>14.3%</td>	14.3%
Appraiser Variation (AV) <td>39.6%</td>	39.6%
Repeatability and Reproducibility (R) <td>9.7%</td>	9.7%
Part Variation (PV) <td>40.7%</td>	40.7%

NDC: 9

Gage R&R

Date	Line	Defect
1/2/2010	Line 2	Bent/Damaged flaps
1/2/2010	Line 2	Carton will not open
1/2/2010	Line 3	Folded flaps
1/2/2010	Line 3	Folded flaps
1/2/2010	Line 3	Off color

Select Data

Documents/QI Macros Test Data/Histogram.xlsx

QI Macros

- Improvement Project Wizard
- Data & Text Mining
- PivotTable Wizard
- Word Count Wizard
- Word/Number Count Wizard
- Defect Tracking Matrix
- Box, Dot & Scatter Plot
- Histograms & Capability
- Capability Templates
- Control Charts (SPC)
- Control Chart Templates
- Control Charts

Click Menu

Count of Defect	Line 1	Line 2	Line 3	Grand Total
1/2/2010	3	2	8	13
1/3/2010	2	3	3	8
1/4/2010	6	3	9	18
1/5/2010	2	1	2	5
1/6/2010	4	2	2	8
1/7/2010	4	2	4	10

Count of Word	Total	Count of Two-Word Phrases	Total
Word	189	Two-Word Phrases	105
flaps	105	folded flaps	84
folded	84	bent/damaged flaps	76
bent/damaged	76	carton open	84
open	76	flaps folded	46
carton	76	flaps bent/damaged	43

Chart Output