

G7 is "Graphs of Numbers"

Stratified Sampling is also useful in G7

■ **Bar Graph:** Analysis of size. ("Pareto Chart" is arranged bar graph.)

■ **Line Chart:** Time series analysis. ("Control Chart" is one of the line chart.)

■ **Circle Graph:** Analysis of ratio

■ **Histogram:** Analysis of distribution of 1 variable. (One of the Bar Graph)

■ **Box Plot:** Analysis of distribution of 1 variable. (similar to stratified histogram)

■ **Scatter Diagram:** Analysis of the relationship of two variables. Analysis of distribution of composed 2 variables. (To find outlier or to study small data set)

■ **Heat Map:** Analysis of the relationship of two variables. Analysis of distribution of composed 2 variables. (To study big data set)

M7 is "Mathematical Analysis"

■ **Error Analysis:** Analysis of the quality of the data

■ **Average & Standard Deviation:** Analysis of statistical value.

■ **Testing of Difference of the Average:** Basic tool of Hypothesis Testing.

■ **Regression Analysis:** Include of the analysis Correlation .

■ **Principal Component Analysis:** In N7, called "Matrix Data Analysis".

■ **Decision Tree:** Application of Stratified Sampling

■ **Linear Programming:** To find the best in constraints.

W7 is "Analysis of Words"

Most of W7 are Concept Analysis .

Affinity Diagram: Classification of idea. The method to collect Brains-torming

Cause-and-Effect Diagram: To collect reasons and results.

Tree Diagram: Similar to FMEA . The next step of Cause-and-Effect Diagram.

Relation Diagram: Main part of Systems Thinking .

Matrix Diagram: Applications are QFD , Multi Dimensional Scaling and AHP.

Arrow Diagram: Planning method.

Flow Chart: Analysis of the process

Why-why Analysis is a basis of concept analysis

W7 analyze the structure of phenomena as levels or networks. The idea to think the structure is also useful in G7 and M7.

