Glossary

1. **Probability Distribution**
   In probability theory and statistics, a probability distribution identifies either the probability of each value of a random variable (when the variable is discrete), or the probability of the value falling within a particular interval (when the variable is continuous).

2. **Normal Distribution**
   A normal distribution is a variable data that clusters about an average and is symmetrical. When graphed, a normal distribution appears as a bell-shaped curve. In-control processes yield a normal distribution.

3. **Variable**
   A variable is a symbol that stands for a value that may vary; the term usually occurs in opposition to constant, which is a symbol for a non-varying value

4. **Variate**
   A measurable quantity capable of taking on a number of values; A variable, often the set of x values plotted on a graph

5. **Bi-variate Distribution**
   In the study of probability, given two random variables X and Y that are defined on the same probability space, the joint distribution for X and Y defines the probability of events defined in terms of both X and Y. In the case of only two random variables, this is called a bivariate distribution

6. **Multi-variate Distribution**
   In the study of probability, given two random variables X and Y that are defined on the same probability space, the joint distribution for X and Y defines the probability of events defined in terms of both X and Y. In the case of only two random variables, this is called a bivariate distribution, but the concept generalizes to any number of random variables, giving a multivariate distribution.

7. **Correlation**
   Interdependence of variable quantities

8. **Regression**
   A measure of the relation between the mean value of one variable (e.g., output) and corresponding values of other variables

9. **Partial Correlation**
   A correlation between two variables when the effects of one or more related variables are removed

10. **Least squares**

A method of estimating a quantity or fitting a graph to data so as to minimize the sum of the squares of the differences between the observed values and the estimated values

11. **Omega**
    In statistics, omega is used as the symbol for the sample space, or total set of possible outcomes

12. **Sigma**
    A unit of standard deviation indicating the degree of spread within a set of measurements/ A mathematical sum

13. **Estimation**
    Estimation theory is a branch of statistics and signal processing that deals with estimating the values of parameters based on measured

14. **Standard Error of estimate**
    It is the standard deviation of the differences between the actual values of the dependent variables (results) and the predicted values. This statistic is associated with regression analysis

15. **Residual**
    Residual (or error) represents unexplained (or residual) variation after fitting a regression model. It is the difference (or left over) between the observed value of the variable and the value suggested by the regression model.