

# IPE-314: QM SESSIONAL

## SUBMISSION\_1: EDA Using Minitab

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### DATA MODELING:

#### BUBBLE PLOT

A **bubble chart** is a type of chart that displays three dimensions of data.

#### PALETO CHART

A **Pareto chart** is a type of chart that contains both bars and a line graph where individual values are represented in descending order by bars, and the cumulative total is represented by the line.

#### PIE CHART

A **pie chart** is a circular statistical graphic which is divided into slices to illustrate numerical proportion.

#### HISTOGRAM

A **histogram** is an accurate representation of the distribution of numerical data.

#### ANOVA

**Analysis of variance (ANOVA)** is a collection of statistical models and their associated estimation procedures (such as the "variation" among and between groups) used to analyze the differences among group means in a sample.

#### REFERENCE:

[https://en.wikipedia.org/wiki/Main\\_Page](https://en.wikipedia.org/wiki/Main_Page)

### SUMMARY:

EDA or exploratory data analysis is an approach to analyzing datasets to summarize their main characteristics, often with visual methods. The visual methods here, were applied using **Minitab 18**. Bubble plot, histogram & pie charts were drawn from **Graph**; Pareto chart, ANOVA & fitted line plot were drawn from **Stat**. The given dataset was edited (row1, col1) as the last two digits of student id (40).

### DATASET FOR PARETO CHART, PIE CHART, BUBBLEPLOT, ANOVA & FITTED LINE PLOT

Defect	Count	Cost	Count*Cost
Missing button	40	0.17	36.89
Loose thread	67	0.89	59.63
Misaligned fabric	18	5.12	92.16
Fabric flaws	23	4.89	112.47
Stitching errors	112	1.89	211.68
Hemming errors	43	4.23	181.89

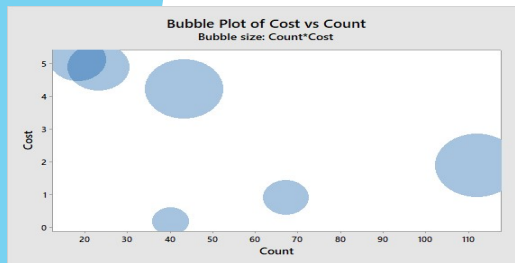


FIGURE: BUBBLEPLOT

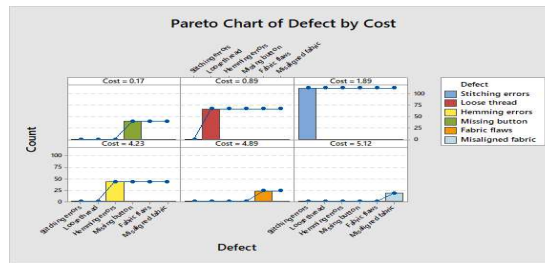


FIGURE: PARETO CHART

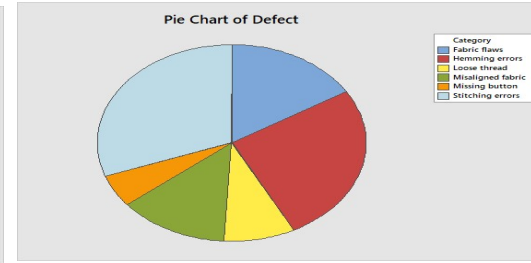


FIGURE: PIE CHART

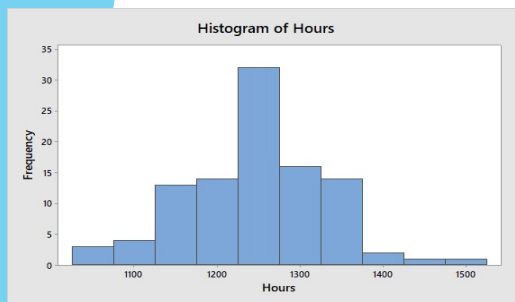


FIGURE: HISTOGRAM

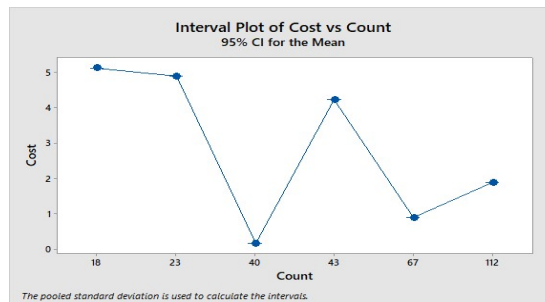


FIGURE: ANOVA

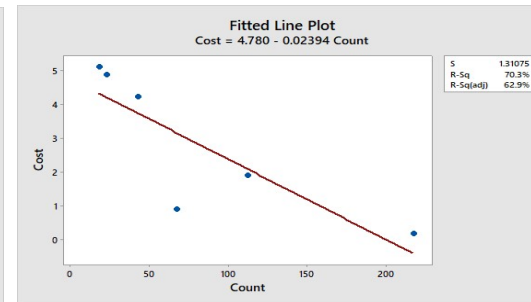


FIGURE: FITTED LINE PLOT

### VISUAL REPRESENTATION