Tips for Applying Quality Tools

Collecting data

A **check sheet** might be prepared to show defects by day or by worker. The data matrix is already a collection of data.

Understanding data

- A **line graph** or a **bar graph** might be used to show the progression of defects by worker over time. **A pie graph** might be used to show the number of defects by worker or by day relative to the total number of defects.

- A **histogram** might be used to show how defects are distributed by worker or by day.

- A **Pareto chart** might be used to identify defects in descending order by worker or by day of the week.

- A **scatter diagram** might be used to investigate a possible relationship between days of the week and the number of defects produced.

Understanding processes

- A **flow chart** might be used to better understand the steps in the bead production process.

- A **run chart** might be used to understand how production progresses over time.

- A **control chart** might be used to determine system performance and if expected performance meets customer requirements. (Hint: All 30 productions must appear on the x-axis with the number of defects on the y-axis. They may be plotted either by worker/by day, or by day/by worker).

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Analyzing processes

- A **cause-and-effect** diagram might be used to identify causes and root causes of defective beads. (Hint: When determining categories, consider the information provided by the six team members in their report.)

- A **pillar diagram** might be used to identify the relationships between suspected causes and results.

Solving problems

- **Force field analysis** might be used to identify and understand the forces affecting quality performance. It might provide a foundation for improvement action.

- **Brainstorming** might be used to identify causes when using process analysis tools or to identify possible improvement actions.

- An **affinity diagram** might be used to organize and better understand the random results of brainstorming.

- **Nominal group technique** might be used to gain consensus on priorities of action to be recommended.

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