

## TQM Tools Questions for Group 5:

### 1. What are the eight key elements for successful implementation of TQM in an organization?

To be successful implementing TQM, an organization must concentrate on the eight key elements:

1. Ethics
2. Integrity
3. Trust
4. Training
5. Teamwork
6. Leadership
7. Recognition
8. Communication

### 2. List five uses of TQM tools.

TQM tools illustrate and aid in the assimilation of complicated information such as:

- Identification of your target audience
- Positive and negative forces affecting business
- Assessment of customer needs
- Competition analysis
- Market analysis
- Brainstorming ideas
- Productivity changes
- Various statistics
- Staff duties and work flow analysis
- Statement of purpose
- Financial analysis
- Model creation
- Business structure
- Logistics analysis

### 3. If you are trying to rank a problem causes in order of relative importance, what tools should you use?

- Bar Chart
- Pareto Chart
- Weighted Voting

### 4. What is another name of cause and affect diagram?

- An Ishikawa chart
- A Fishbone diagram

### 5. What are the goals of Brainstorming?

- Generate an extensive number of ideas
- Involve everyone in the process
- Promote a common understanding

### 6. How can you calculate the control limits? What are the formulas?

They're calculated from the data using a statistical formula to help establish the natural boundary for your process.

$$\bar{X} = \text{Sum}(x)/k$$

$$R = \text{Sum}(R) / k$$

### 7. Give two examples where the decision matrix can be used?

1. Evaluating a series of IT projects for an organization: upgrading the PC's operating system, installing new file sharing system, and building an online e-learning system.
2. Evaluating two employees' retention projects: building a new staff recreation centre, giving free stocks to employees and giving free gym memberships.

### 8. What are the benefits of flow charts?

1. Clarify the actual path and steps performed in a process, thus, helps to understand the process under investigation exactly as it is.
2. Identify the places in a process where improvements can be made.

### 9. When do you use force field analysis?

1. It helps in defining the important issues and allows you to consider factors that are hard to quantify.
2. Also, it can help identify potential obstacles to improvement and their solutions.

### 10. Where did that name "Mile Stone" come from in Gantt Charts, and what do they represent?

They came from an old Greek tradition to put a mile stone at the end of every stage in a race. They represent the delivery/ or end of a task.

### 11. Mention, define and draw four shapes (patterns) that can be formed using a histogram ?

- Normal: Not caused by any identifiable variable. Desirable distribution, no action required.
- Saw-toothed: Range of values for each bar is not the same or certain values were excluded from the range. Review the bar widths on the horizontal axis and/or check the source of the data and the way the data were gathered.
- Bi-modal: Variation maybe the result of cyclical factors or two sources of data. If two sources of data are combined, try to separate them. If cycles are expected, no action is required.
- Skewed: Sometimes the pattern is expected, especially with measurement of time.

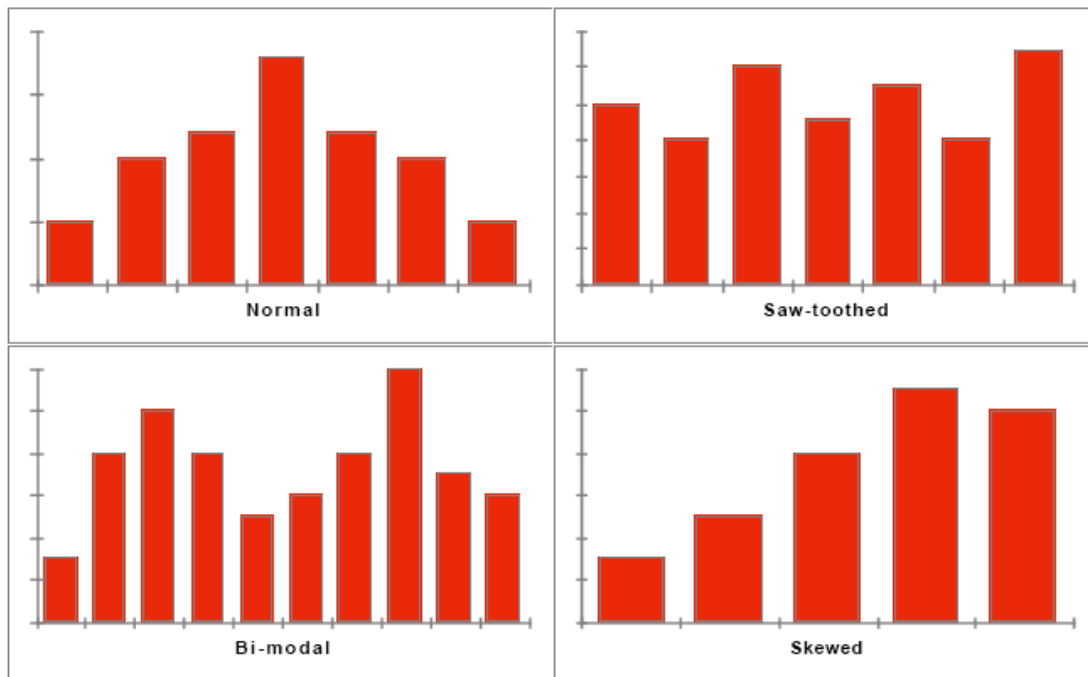


Figure 2.3  
Types of Distributions

### 12. Mention four benefits of using a Pareto Chart?

- The most benefit derived from a Pareto analysis is to identify and define improvements for quality or performance improvement.
- Focus on the 20 percent of the problems that may be causing the 80 percent of the defects or costs (80/20 rule).
- It is a vertical bar graph that identifies what occurs more.
- A Pareto chart is useful for non-numeric data.
- It helps you to determine which problems to solve in what order.

### 13. When do we use Pie Chart?

Pie charts are useful to use when one needs to effectively display and easily interpret the relationship of each category to not only the whole but to each other.

### 14. When do we use process map?

- Document how a process works: Process mapping forces you to document all steps of a business process. It allows you to get a clear understanding of how the business process works.
- Examine a process to determine where and why major breakdowns and/or re-work occur: Process mapping uncovers specific problems in the process, such as redundancy and re-work, so that selected improvements can be effectively targeted.

### 15. How can we build process?

- Identify a "key business process."

- Identify the major functions involved in the process and list them down the left side of the page.
- List the starting activity on the far left side of the map next to its corresponding function. As you move right, enter the activities associated with each function.
- Connect the activities with an arrow from the supplier to the immediate customer. Arrows may go in both directions, indicating interaction between two functions related to the same activity.
- Analyze the final diagram for redundancies, rework and/or disconnects in the process. These are the items on which you will focus your efforts.