Questions and Answers on TQM Tools

By

Group # 1

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CEM 515

Source: Attached Sources from Internet

Saturday, 23 September, 2006

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Preparing questions on : -Weighted Voting

- Three Actual Rule
- Scatter Diagram
- Run Chart

Hani M. Al-Mofarij

Preparing questions on : - Process Map

- Pie Chart
- Pareto Chart
- Histogram

Faisal M. Siddiqui

Preparing questions on : - Gantt Chart

- Force Feild Analysis
- Flow Chart
- Decision Matrix

<u>Yasser A. Al-Zahrani</u>

Preparing questions on : - Control Chart

- Check Sheet
- Cause & Effect diagram

Talal A. Al-Ghanem

Preparing questions on - Brainstorming

- Bar Chart
- Affinity Diagram

Q1- In weighted voting tool, how many votes are recommended to be given to each member if there are 10 members and 10 options?

A1- As a rule of thumb, the no. of votes each member gets should be 1.5 times the no. of options, therefore

No. of votes= $10 \times 1.5 = 15$ Votes

Q2- How can we tell from looking at a scatter diagram that two variables are related?

A2- If the dots form a diagonal line

Q3- A "Run Chart" tool (turned on it side) provide the data for what other tool?

A3- Histogram

Q4- In the Control Chart, if the upper and lower limits are removed, then what tool will be created?

A4- Run Chart

Q5. When is a process map an excellent tool to use? And how many functions should be listed on this process?

A5. When it is a cross-functional since each function is displayed as a separate row on the chart. Process maps can be used for any process, simple or complex, long or short, as long as the process is cross-functional.

2-6 functions and if there is only one function involved, a flow chart is probably a better choice to diagram the process.

Q6. What is the benefit of the Pie chart?

A6. When we need to display and easily interpret the relationship of each category to not only the whole but to each other.

Q7. Explain the 80/20 rule? How is the data for a Pareto chart obtained?

A7. It means that approximately 80% (most) of the problems in a process are caused by 20% (only few) of the possible causes.

Q8. Why do we use histogram in TQM? Frequency table is useful in construction of which tool?

A8. To see if a process is within specification by looking at the distribution of bars of the histogram to see if they lie within the specification limits.

, A frequency table is one of the important steps in constructing a histogram we need this chart because the bars in histogram indicate the frequency.

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	Task Name	Duration	T	Μ	F	T	S	W	S	T	Μ	F	T		SΙV	V	S	Т	Μ	F	T	Ś	W
1	Define Specifications	10 days					Н																
2	Seek council approval	2 days																					
3	Advertise tender	12 days										հ											
4	Open Tenders	1 day										Ь											
5	Select contractor	5 days											<u></u>										
6	Notify successful tenderer	3 days																					
7	Sign contract	0 days													ð	30-	11						
8	Prepare site	1 day																	Ľη				
9	Install benches	2 days																	j 🎽				
10	Install power points	2 days																					
11	Install cabling	3 days																		~	ի		
12	Test cabling	1 day																			Ĭ		
13	Room ready for hardware	0 days																			¢	21-12	2

Q9.

Milestone = What does it represent in a Gantt Chart and What is its length?

A9. Milestone: The diamonds show *milestones*. Milestones are significant points of progress in the project. They have zero length: no work is actually needed for a milestone. They mark major points of project development.

Q10. In which of the TQM Tools do we make a "T" Diagram?

A10. Force Field Analysis.

Q11. Flowchart of a process indicates the______ to be per formed and the ______ in which they occur.

A11. Operations/Activities/Tasks, Sequence/Order

Q12. There are at least 13 different names of Decision Matrix. Name at least 4 of them!

A12.

1. AHP Matrix

2. Bid Decision Matrix

3. Comparison Matrix

4. Decision Alternative Matrix

5. Evaluation Matrix

6. Government Decision Matrix

- 7. Importance Vs. Performance Matrix
- 8. Measured Criteria Technique
- 9. Opportunity Analysis
- 10. Performance Matrix
- 11. Rating Grid
- 12. Scoring Matrix
- 13. Weighted Criteria Matrix

Q13: In control chart, what are the two main causes for variation? and how can you judge to what type they belong?

A13: there are two types of causes: a- Common cause (Normal) b- Special cause (out of control) -if the points fall between the UCL and the LCL→common cause If out of those boundaries→ special cause

Q14: why cannot we apply process improvement to those processes which are out of control?

A14: because they need to be brought to statistically control region between UCL and LCL, then apply process improvement since they are now <u>repeatable and predictable</u>.

Q15: What can a check sheet do and cannot do?and what can it show?

- A15: it can do tracking and cannot do analysis It can show patterns and trends
- Q16: Can a check sheet be used for old date?and for what purpose?

A16: Yes, to be put into more organized system by sorting out the data.

Q17: What are the principles of brainstorming?

A17: The principles are as follows:

- 1. Record all ideas.
- 2. Use freewheeling ideas.
- 3. Limit judgment until later.
- 4. Encourage participation by everyone.
- 5. Solicit quantities.

Q18: What are the brainstorming steps?

A18: The steps are:

- 1. Generate ideas.
- 2. Evaluate ideas
- 3. Decide using consensus.

Q19: What is the best technique out of the brainstorming methods?

A19: The best method is a combination of the various brainstorming methods. E.g. the brainstorming session may start with a round-robin or slip method and move into a freewheeling method to add more ideas.

Q20: What is the difference between the slip method and Crawford slip method?

A20: In the slip method; all ideas are written on a slip of paper, while incase of the Crawford slip method, each idea is written on a separate slip of paper.