Project Quality Management

Project Quality Management

- 'Quality is Predictability'- Deming

- 'Conformance to requirements' - Crosby

- 'Fitness for use' - Juran

- 'Customer's opinion'- Feigenbaum

- 'The totality of characteristics of an entity that bear on its ability to satisfy stated and implied need' - ISO 8402:1994

Project Quality Management

- Conformance to "Valid Requirements".

- Customers' perception of the value of the suppliers' work output.

- A perceived degree of excellence with a minimum, usually set forth by the customer.

- Best value for money.

Project Quality Management

Definition

Processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken

Project Quality Management

21. Plan Quality [PLANNING]

22. Perform Quality Assurance [EXECUTING]

23. Perform Quality Control [M&C]

21. Plan Quality

Definition

Identifying quality requirements and/or standards for the project and product, and documenting how the project will demonstrate compliance.

Plan Quality

| Knowledge Area	:	**Project Quality Management**
Process Group	:	**Planning Process Groups**

Input

1. Scope baseline
2. Stakeholder register
3. Cost performance baseline
4. Schedule baseline
5. Risk register
6. Enterprise environmental factors
7. Organizational process assets

Tool & Technique

1. Cost-benefit analysis
2. Cost of quality (COQ)
3. Control charts
4. Benchmarking
5. Design of experiments
6. Statistical sampling
7. Flowcharting
8. Proprietary quality management methodologies

Output

1. Quality management plan
2. Quality metrics
3. Quality checklists
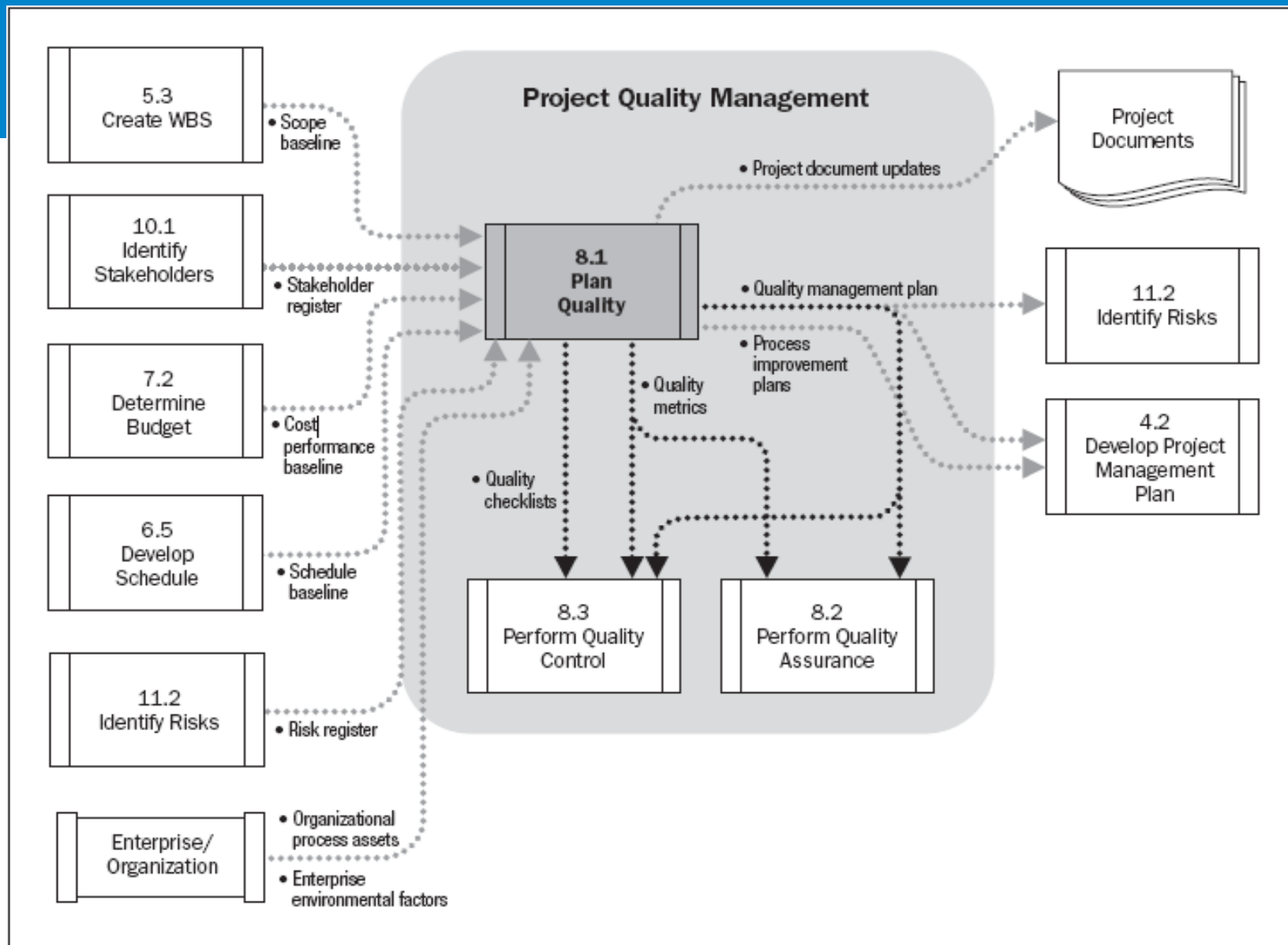4. Process improvement plan
5. Project document updates

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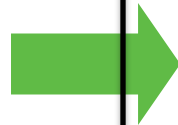
Figure 8-3. Plan Quality Data Flow Diagram

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Cost of Quality

Cost of Conformance

Prevention Costs

(Build a quality product)

- Training
- Document processes
- Equipment
- Time to do it right

Appraisal Costs

(Assess the quality)

- Testing
- Destructive testing loss
- Inspections

Money spent during the project to avoid failures

Cost of Nonconformance

Internal Failure Costs
(Failures found by the project)
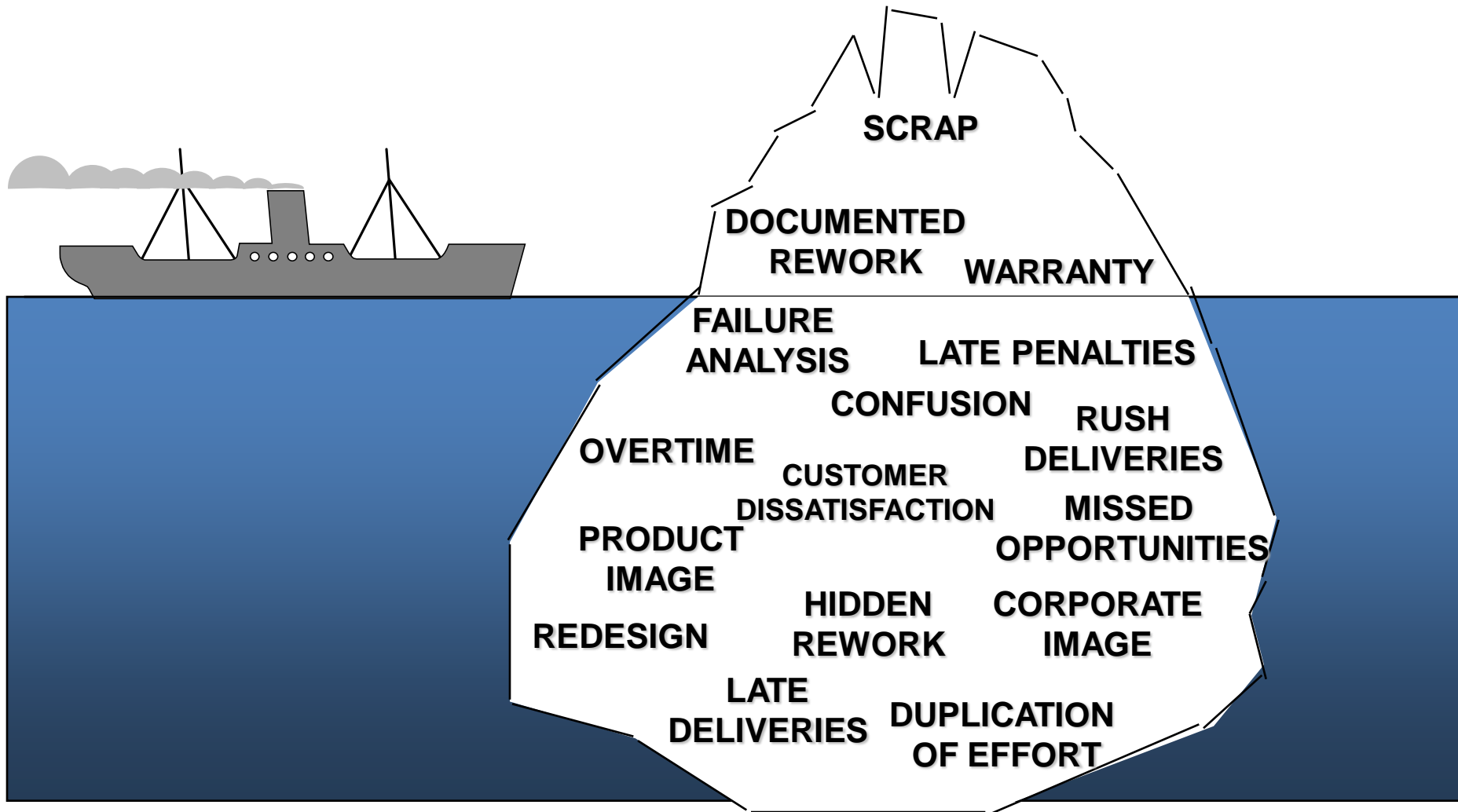
- Rework
- Scrap

External Failure Costs
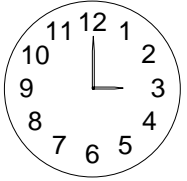(Failures found by the customer)

- Liabilities
- Warranty work
- Lost business

Money spent during and after the project because of failures

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Cost of Nonconformance- Iceberg

Exercise-21

a. **Write sections of QMP of your project OR**

b. **Write Quality Metrics for your projects, their goal, and threshold values OR**

c. **Identify the name of checklists used in your project**

22. Perform Quality Assurance

Definition

Auditing quality requirements and the results from quality control measurements to ensure appropriate quality standards and operational definitions are used.

Perform Quality Assurance

Knowledge Area	:	**Project Quality Management**
Process Group	:	**Execution Process Groups**

| Input	Tool & Technique	Output
1. Project management plan	1. Plan quality and perform quality control tools and techniques	1. Organizational process assets updates
2. Quality metrics	2. Quality audits	2. Change requests
3. Work performance information	3. Process analysis	3. Project management plan updates
4. Quality control measurements		4. Project document updates

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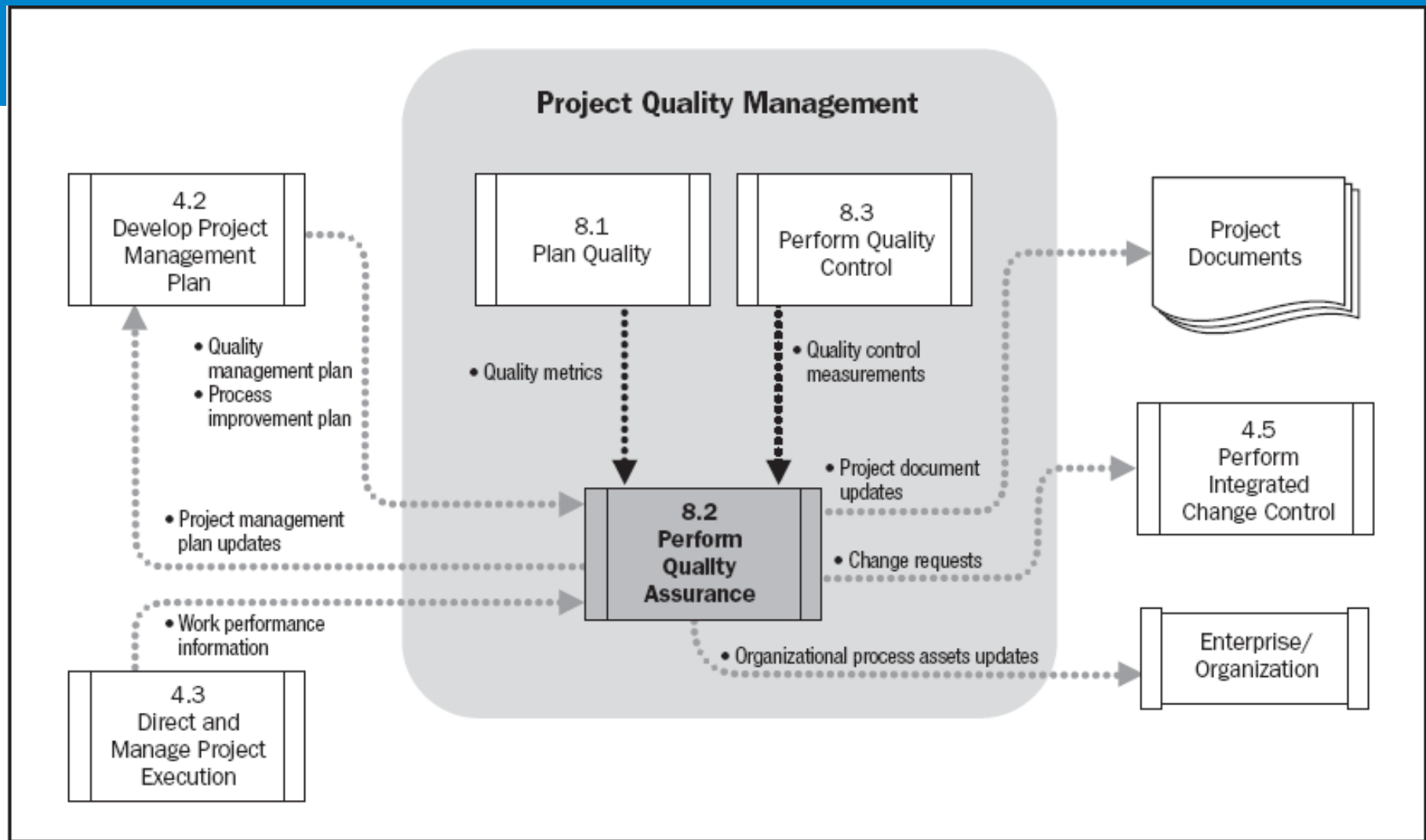
Figure 8-9. Perform Quality Assurance Data Flow Diagram

Exercise-22
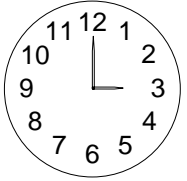
a. **Write the number of NCs were discovered in your project corresponding to the processes**

b. **Who is responsible to close NCs and report their status**

c. **List the corrective or preventive actions suggested by auditors**

23. Perform Quality Control

Definition

Monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.

Perform Quality Control

Knowledge Area : **Project Quality Management**

Process Group : **Monitoring & Controlling Process Groups**

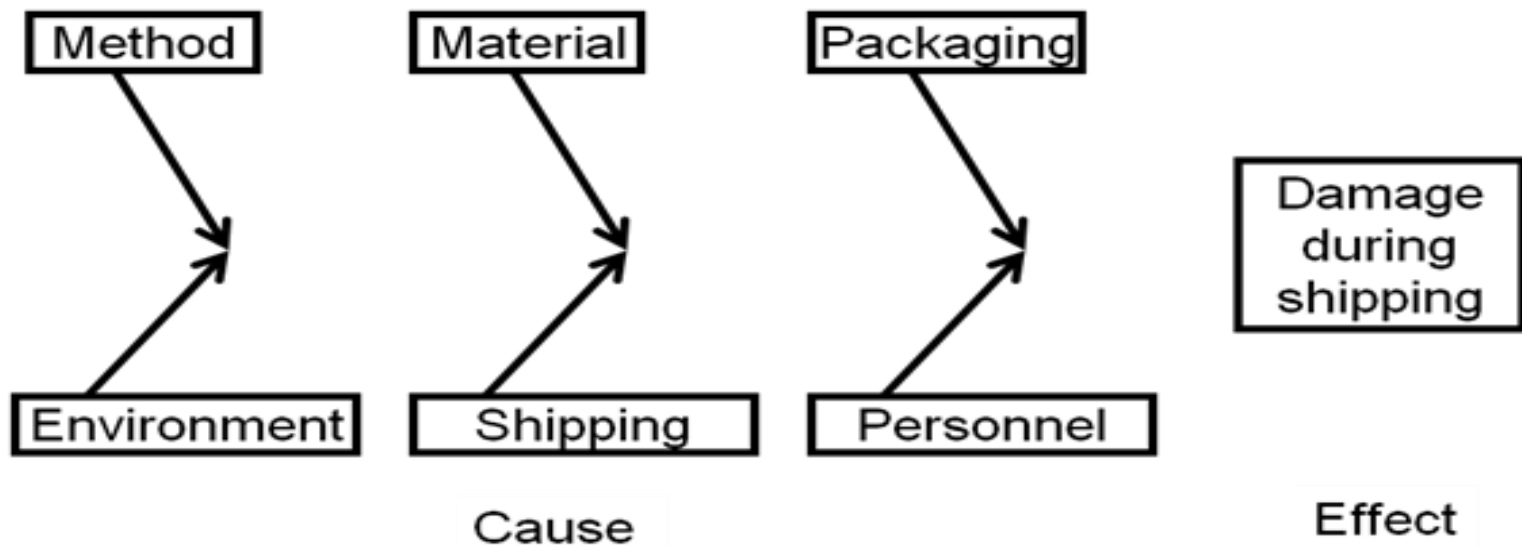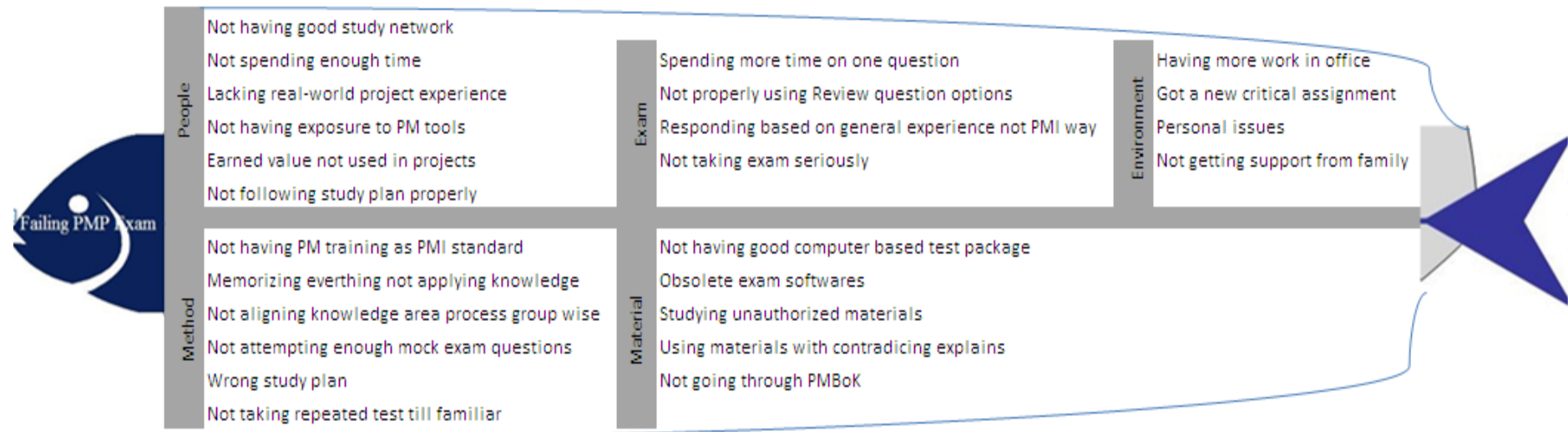| Input	Tool & Technique	Output
1. Project management plan	1. Cause and effect diagram	1. Quality control measurements
2. Quality metrics	2. Control charts	2. Validated changes
3. Quality checklists	3. Flowcharting	3. Validated deliverables
4. Work performance measurements	4. Histogram	4. Organization process assets updates
5. Approved change requests	5. Pareto chart	5. Change requests
6. Deliverables	6. Run chart	6. Project management plan updates
7. Organizational process assets	7. Scatter diagram	7. Project document updates
	8. Statistical sampling	
	9. Inspection	
	10. Approved change requests review	

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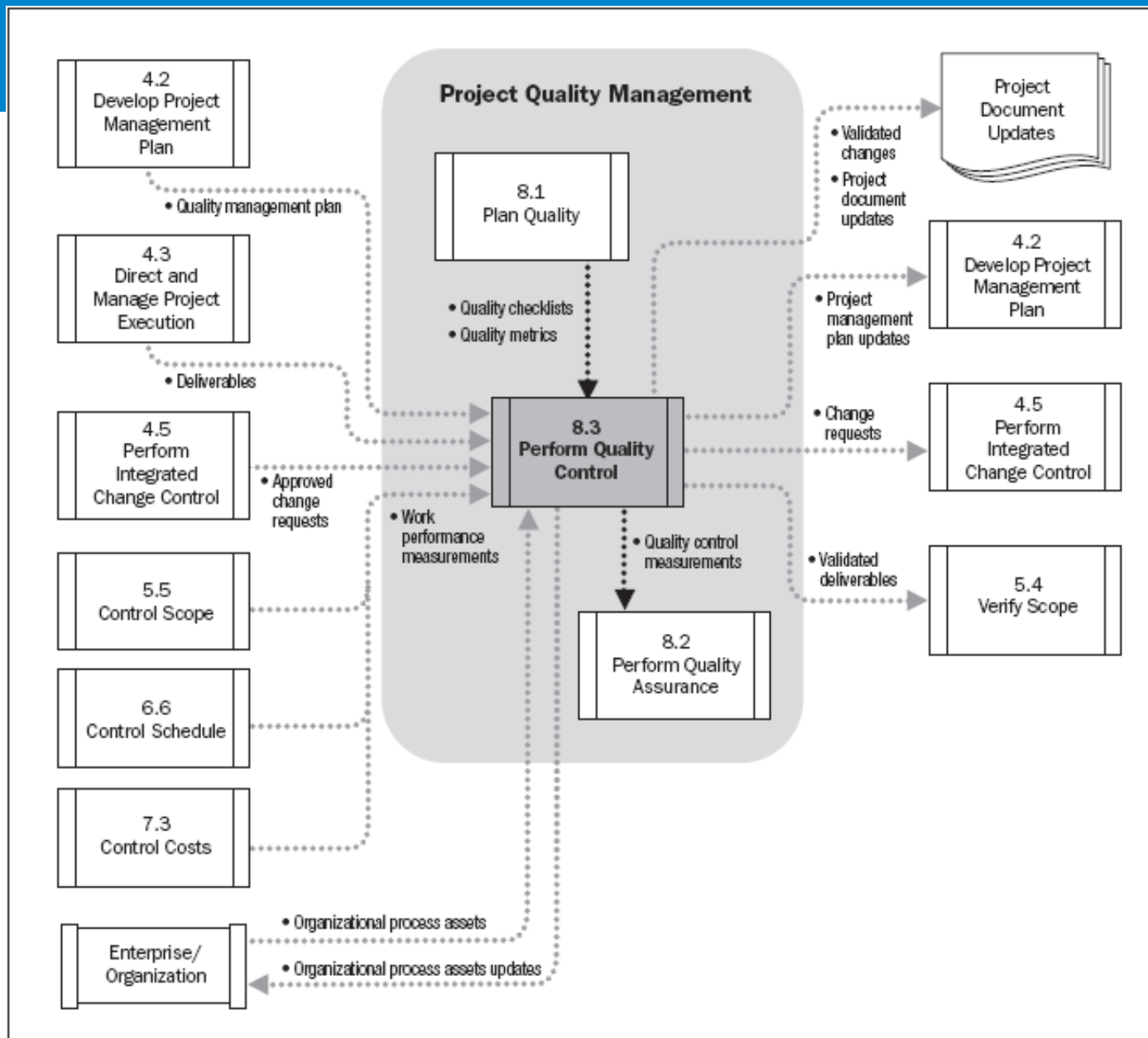
Figure 8-11. Perform Quality Control Data Flow Diagram

Fish Bone Diagram

Tools – Cause & Effect / Ishikawa / Fish Bone Diagram

Fish Bone Diagram
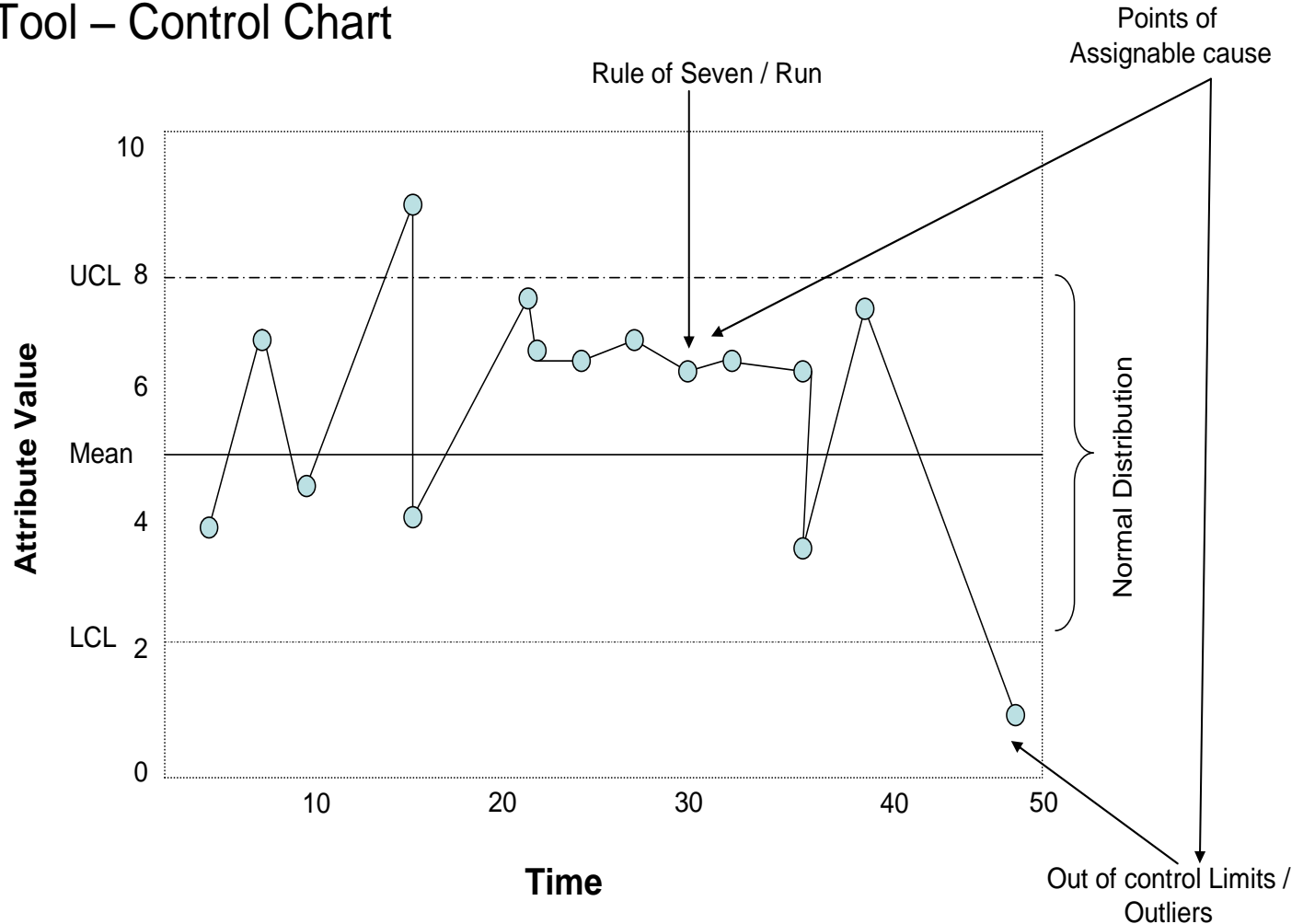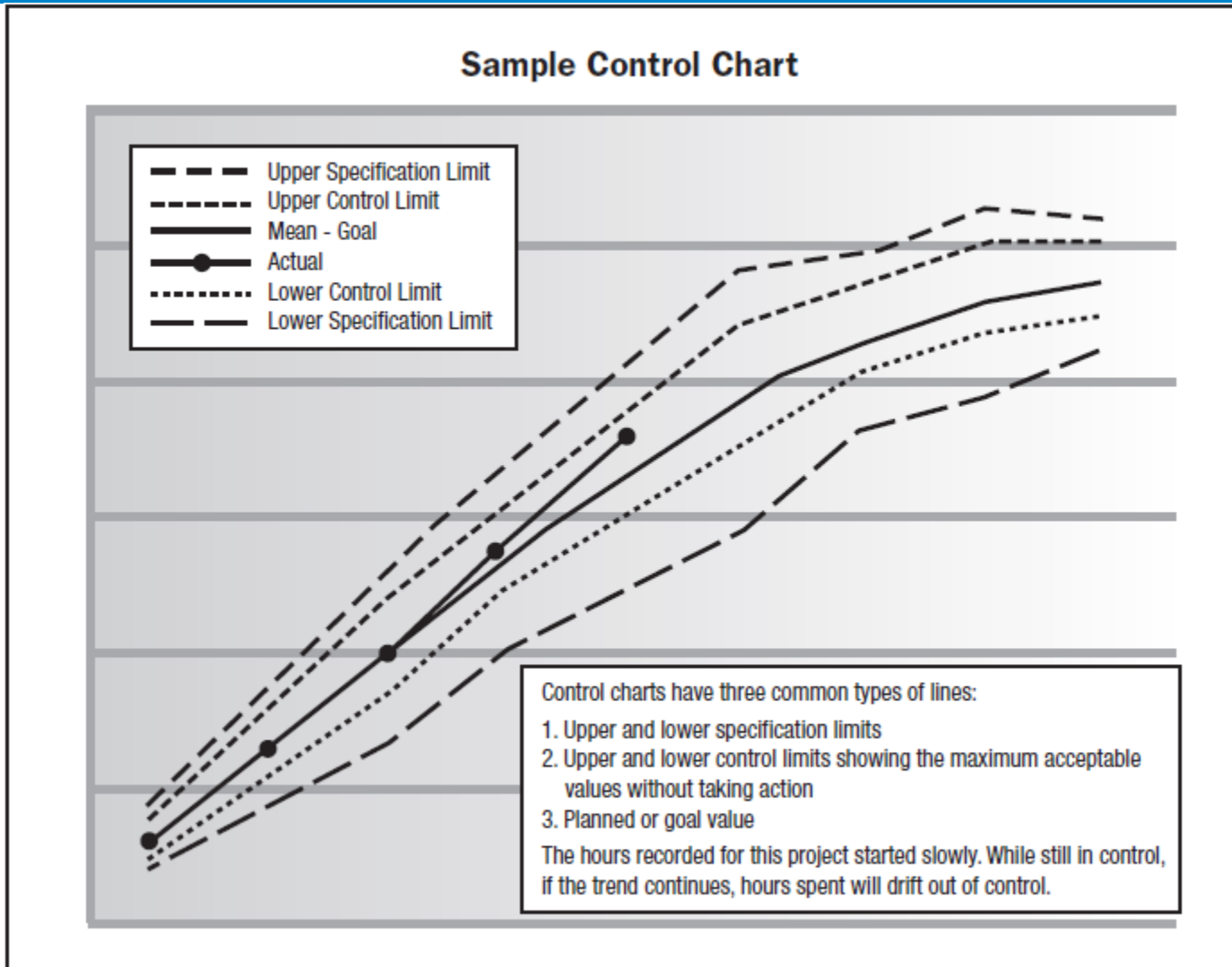

People
- Not having good study network
- Not spending enough time
- Lacking real-world project experience
- Not having exposure to PM tools
- Earned value not used in projects
- Not following study plan properly

Exam
- Spending more time on one question
- Not properly using Review question options
- Responding based on general experience not PMI way
- Not taking exam seriously

Environment
- Having more work in office
- Got a new critical assignment
- Personal issues
- Not getting support from family

Method
- Not having PM training as PMI standard
- Memorizing everthing not applying knowledge
- Not aligning knowledge area process group wise
- Not attempting enough mock exam questions
- Wrong study plan
- Not taking repeated test till familiar

Material
- Not having good computer based test package
- Obsolete exam softwares
- Studying unauthorized materials
- Using materials with contradicing explains
- Not going through PMBoK

Failing PMP Exam

Control Charts

Tool – Control Chart

Control Charts

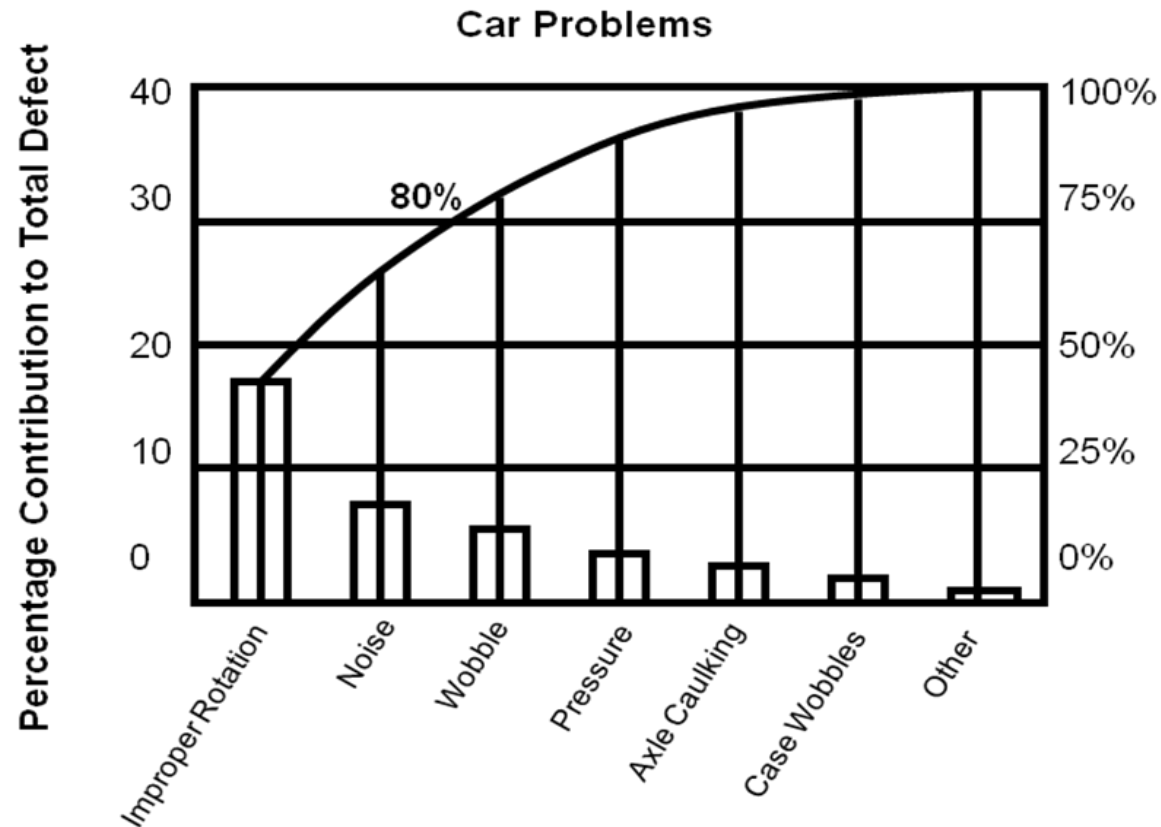Sample Control Chart

Pareto Diagram

Meaning of Six Sigma

Let's get real here. Is it truly necessary to go for zero defects? Why isn't 99.9% defect-free good enough? Here are some examples of what life would be like if 99.9% were "good enough:"

1 HOUR OF UNSAFE DRINKING WATER EVERY MONTH
2 LONG OR SHORT LANDINGS AT EVERY AMERICAN AIRPORTS EACH DAY

400 LETTERS PER HOUR WHICH NEVER ARRIVE AT THEIR DESTINATION
500 INCORRECT SURGICAL OPERATIONS EACH WEEK
3,000 NEWBORNS ACCIDENTALLY FALLING FROM THE HANDS OF NURSES OR DOCTORS EACH YEAR
4,000 INCORRECT DRUG PRESCRIPTIONS PER YEAR

22,000 CHECKS DEDUCTED FROM THE WRONG BANK ACCOUNT EACH HOUR
32,000 MISSED HEARTBEATS PER PERSON PER YEAR

**Here are some examples of what life would be like at Six Sigma**

13 WRONG DRUG PRESCRIPTIONS PER YEAR
10 NEWBORNS ACCIDENTALLY FALLING FROM THE HANDS OF NURSES OR DOCTORS EACH YEAR
1 LOST ARTICLE OF MAIL PER HOUR

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Sigma Values

Sigma	Yield	Defects in Millions
+/-2	95.44%	45600
+/-3	99.73%	2700
+/-6	99.9999997%	0.002

Sigma level (with 1.5 sigma shift)	DPMO	Percentage yield
1	691,462	30.8550%
2	308,538	69.1462%
3	66,807	93.3193%
4	6,210	99.3790%
5	233	99.9770%
6	**3.4**	99.99966%
7	0.019	99.999966%

Exercise-23
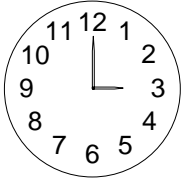
5 minutes

a. **Write the Quality control activities on your project**

b. **List the values of various quality control measures on your project.**

c. **List the validated deliverables**

Questions & Discussions !