Gilb's Approach

- *It is an iterative approach aiming to converge towards clear & measurable multidimensional objectives*
- This approach makes use the concept of McCall & Boehm models
- For each stage, a partial product can be viewed with user where a product will be evaluated to identify whether it meets the needs of user. If it does not satisfy errors has to be identified & cleared out during the next iteration until a product gets satisfied by the user.

5 problem areas highlighted:

- Simple fact that the method is different

- Need of training & re-training and associated costs

- Need of effective management

- Need to measure progress towards the ultimate goal

- Picking up errors

- With reference to Gilb's approach, product quality can be measured in terms of "Quality Template"
- It models quality in terms of Quality attributes & Resource attributes. This is because quality of a product can be constrained by the available resources

  o Quality Attributes

    ▪ Workability

    ▪ Availability

    ▪ Adaptability

    ▪ Usability

Workability	People
Availability	Time
Adaptability	Money
Usability	Tools
Other Qualities	Other Resources
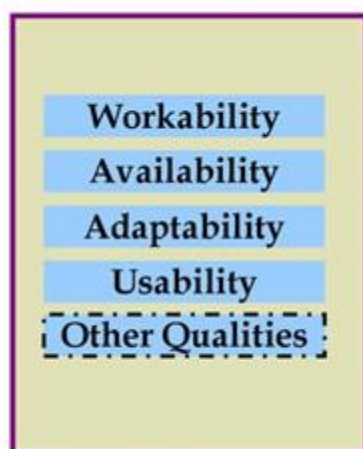
Qualities   **Resources**

Workability	Process Capacity
	Storage Capacity
	Responsiveness
Availability	Reliability
	Maintainability
	Integrity
Adaptability	Improvability
	Extendability
	Portability
Usability SQM-Quality	Entry Level Requirements
	Learning level requirements
	Handling ability
	Measurement

1.Workability

> *It is defined as the ability of the system to do work*

(i.e., transaction processing)

> Divided into sub-attributes of:

- Process capacity – It is the ability of the system to process transactions with in a given unit of time

- Storage capacity – It is the ability of the system to store information

- Responsiveness – It is a measure of the response to a single event

2.Availability

1. *It is the ability of the system to be used with the proportion of elapsed time*

2. Classified into Sub attributes of:

    1. Reliability

    2. Maintainability

    3. Integrity

(a) Reliability

- It is the ability of the system that should not fail from its operating environment under any circumstances

- It is the degree to which the system does what it should to do.

- Coz' purpose of a system is different & the purpose of parts of a system will be different. So the assessment of reliability will also vary

- Based on the analysis of Dickson, Gilb's have suggested that reliability can be assessed in terms of

    1. Fidelity

    2. Veracity

    3. Viability

Maintainability:

- It is the effort required to locate & fix a fault in the program within its operating environment
- It is the process of fault handling
- Sub-attributes of Maintainability are

Problem recognition	Inspection Time
Administrative Delay	Active Correction
Tool Collection	Testing
Problem analysis	Test Evaluation
Correction	Recovery

Integrity:

- It is the protection of the program from unauthorized access

- It is a measure of a system to remain intact under threat

- Integrity may affects availability

- So. A system with poor integrity is likely to be unavailable for much time

3.Adaptability

Classified into sub-attributes of:

- Improvability – It is the time taken to make minor changes to the system

- Extendability – It is the ease of adding new functionality to a system

- Portability – It is the east of moving a system from one environment to another

4.Usability

It is the ability of the system that should facilitate the ease of use & effectiveness of a system

Classified into sub-attributes of:

- Handling ability – It is a measure that says how well productivity can be proceeded after the error is detected

- Entry level requirements – are human capabilities such as intelligence level, language proficiency

- Learning level requirements – are resources such as time needed to reach the performance of the system

- Likability – It says how well people like the system

Workability	Process Capacity	Units per time	Transactions per sec.
	Storage Capacity	Units stored	Bytes per second
	Responsiveness	Actions per time	Response time