GEPM 375

Project Planning and Construction Management

Project Quality

What we learned in last class?

- Different steps in Project Planning.
- Important Appointments.

What we are going to discuss?

- **What is project quality?**
- Ensuring project quality.
- Importance of quality management.
- **What is a quality product?**
- Managing a quality product.
- **Functions and Actions needed for quality product,**
- **ISO & BSTI**

Project Quality:

Consists of **ensuring** that

- the **end product** **not only meets** the **customer specifications**,
- but is one that the **sponsor and key business experts** actually **want to use.**

Emphasizes **on**

- **preventing errors through out** ,
- **rather than inspecting** the product at the end of the project and **then eliminating errors**.

Ensuring the Project Quality:

Project Quality is a **management responsibility** and needs to be performed throughout the project.

Done by Creating the **Quality Plan** which involves:

- **setting** out the standards**,**
- **acceptance** criteria, and metrics
- that will be **used throughout the project** to ensure quality.

Quality plan, then, **becomes the foundation** for all the quality **reviews and inspections** performed **during the project** and is used **throughout project execution**.

Question: Your understanding of ensuring Quality Project

Quality Management in Project- ensuring quality through the project.

"Quality is remembered long after the price is forgotten"

Importance of Quality Management:

•A project may be **completed on time** and **within the given budget**, but if it **does not meet the specified quality** (or performance criteria), it will:

-at best attract criticism and

-at worst be considered failure.

•**Striking a balance** between meeting the three most essential criteria of **time**, **cost** and **quality** (Figure) is one of the critical tasks of PM.

Question: Describe the importance of quality management in a project**.**

- Even where, quality is synonymous to safety, **a failure in quality can be expensive, dangerous and can destroy an organization's reputation** far quicker than it took to build up.

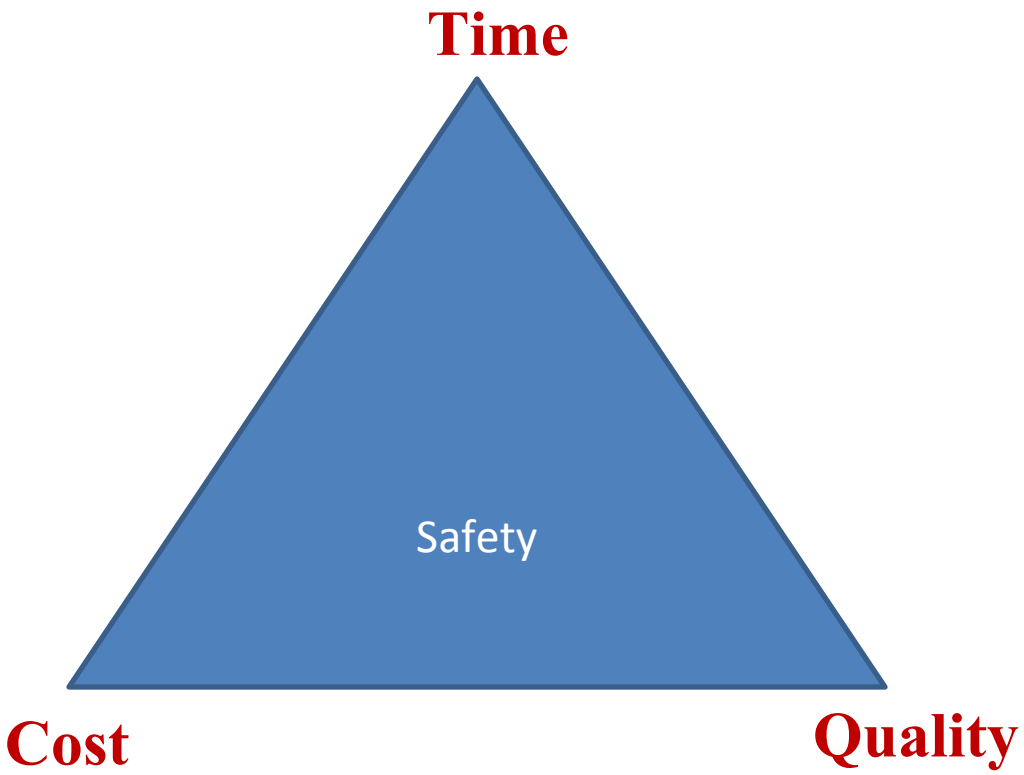


Figure: Project triangle

Describe the **quality product** of a project.

Quality Product:

- If **a product meet the "specified performance criteria** for specified **minimum time"**, it can be said to be a quality product.

A quality product has to be

- **defined**,
- **planned**,
- **designed,**
- **specified,**
- **manufactured** and
- **commissioned** to an **agreed set of standards**.

- **Works involve every department** of the organization from the top management to the dispatch.

Question: Describe the efficient and effective management of the quality of product in a project?

Managing Quality of Product

- **Every level** of an organization should be **involved and be committed to achieve the required performance standards** by setting out the operating procedures and standards.

- Quality is **an attitude of mind** that should **permeate right through** an organization from the **board of directors down to the operatives** on the shop floor.

- Every one should be responsible for **ensuring that his or her works meet the quality standards** set down by the management.

- **Checks and audits are to be carried out on regular basis** to ensure that the specified standards are met by QA Teams.

Question: What are the functions and actions need to be implemented to ensure the consistency of performance to obtain a quality product of a project?

Consistency of Performance:

Functions and Actions need to be implemented for **consistency of performance** to obtain a quality product**:**

- **Quality standards** have been **defined.**
- **Quality requirements** have been **disseminated**.
- **Correct equipment** has been **set up.**
- **Staffs and operatives** have been **trained**.
- **Materials** have been **tested and checked for conformity**.

- **Adequate control points** have been **set up**.
- **Designated components** have been **checked at predetermined stages and intervals.**
- **Feedback and rectification process** has been **set up**.
- **Regular quality audits and reviews** are carried out.

All these steps are to be **included in quality manual** with the quality policy, plan and program.

Important Quality Control Definition:

Quality Assurance (QA):

- **All the planned and the systematic actions necessary to provide confidence** that an item, service or facility will **meet the defined requirements.**

- A set of **documents which give evidence** of how and when the different quality procedures and systems are actually being implemented.

- **Guidelines for quality assurance standards are published by various national and international institutions.**

Question: Describe the quality assurance of a product to the customers by the project manager.

Important Terms – Related to Quality

Quality Control:

- QA actions provide **means of control** and **measure the characteristics** of an item, process or facility to establish requirements.

- **Control covers the actions** to be taken by different staffs and operators employed and the **availability of the necessary tools** to enable the works to be done.
- **Performance (measure) criteria are often set** by the **feed back** from market research & customer requirements and **confirmed** by top management.

Question: What is quality control in a Project?

Quality Plan

- **Defines** as **control document which set**, **applicable standards**, **inspection methods** and **inspection authority**.

- Also defines **contract specific documents** which can vary in content and size from company to company.

Defines followings in details in Quality Plan:

- **Processes** to be employed.
- **Hold points** of each production process.

Points to be included in a Quality plan: TCS- MPIA

- **Tests to be carried out** for different **materials and components**, which include:
  -Dimensional checks and weight checks.
  -Material test (physical and chemical)
  -Non-destructive tests (radiography, ultrasonic etc.)
  -Pressure test
  -Leakage test
  -Electrical tests
  -Qualification and capability tests

Quality Plan (cont.)

- **Control documents** including reports and concession requests.
- **Standards to be applied** for different components.
- **Methods of inspection**.
- **% of items or processes** (such as welds) to be checked.
- **Inspection authorities**, whether internal, external or statutory.
- **Acceptance criteria** for the tests and checks.

Question: What is a quality plan of Projects? What are points to be included in a quality plan of a project?

Organizations Control the Quality

- **ISO 9001**: Quality System- Model for **Quality Assurance** in design and development, production, installations and servicing.

- **ISO 9002**: Quality System- Model for Quality Assurance in **production** and **installations**.





ISO: International Organizations for Standardization.



- **Established:** As Federations of International Standard Association **(ISA) during WW II in 1942**.
- **After WWII**, members of ISA and UNSPSC (United Nations Standard Products and Services Council(UNSPSC) & delegates from 25 countries, **form ISO.**
- **Effective** in **February 1947**.
- HQ Geneva
- More than 250 technical committees decide on standardization.

BSTI: Bangladesh Standards and Testing Institute, Ministry of Industry.

- **Purpose: Controlling** the Standard of Services and Quality of Goods.
- **Established**: **1971**
- **Member** of ISO in **1974.**
- **Merges** of: Bangladesh Standard Institute
  Central Testing Laboratories
  Department of Agricultural Grading and Marketing.
- **Location**: Tejgaon Industrial Area.

Project Quality

Quality control in Bangladesh is handled by **global firms**:

- **Intertek**
- **Bureau Veritas**
- **QIMA**
- **Tetra Inspection**
- **AQF**

Local Specialists:

- BPO BD
- Group QA
- Crusher lab QA and SOAT Lab
- QC Hub Inspection and Services
- Believer Compliance
- IISPL

Project Quality

What we have discussed today?

- What is project quality?
- Ensuring project quality.
- Importance of quality management.
- What is a quality product.
- Managing a quality product.
- Functions and Actions needed for quality product,
- ISO & BSTI

Thank You