

Industrial Engg.

students learn:-

improve quality of products and services

minimize costs

improve security

reduce risk of injury

minimize delays

improve accommodation for the disabled

improve quality of work life of employees

improve service to customers

reduce human errors

improve on-time performance

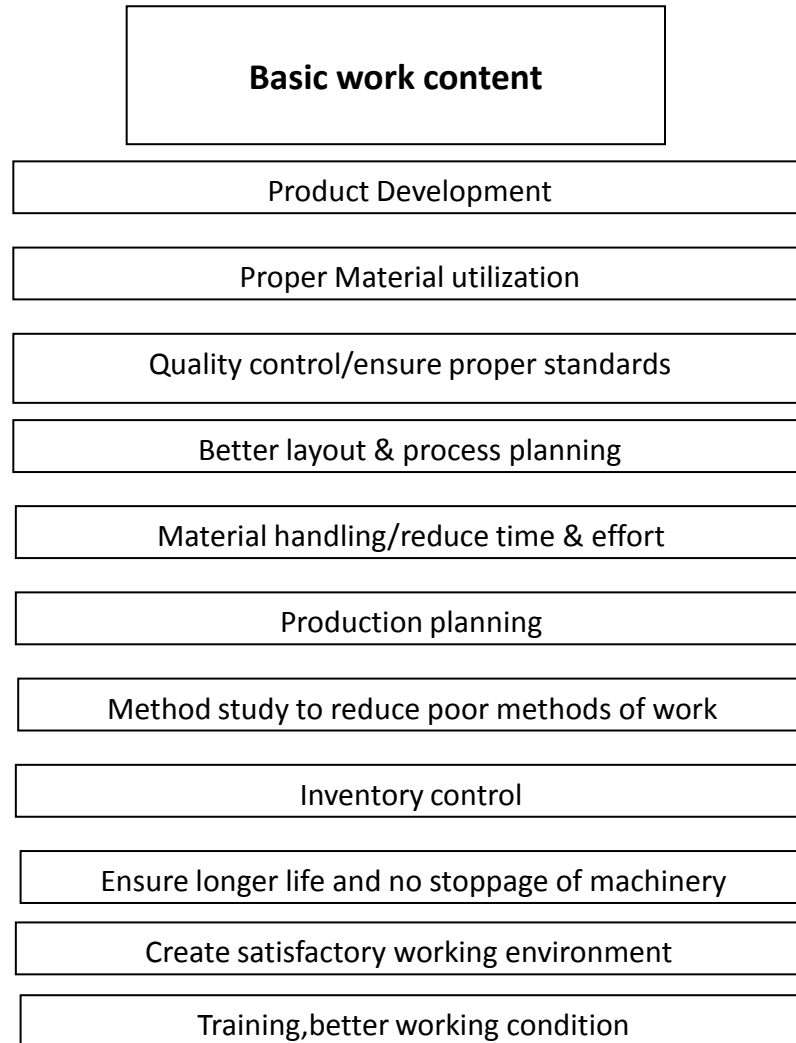
Innovative applications

- Manufacturing
- Computers
- Semiconductors
- Biomedical Device
- Consulting
- Hospitals
- Restaurant chains
- Hotel chains
- Airlines and airports
- Government agencies
- Armed forces
- Worldwide distribution and delivery companies
- Entertainment companies and retail chains

Human Factor in the application of work study:

- System Improvement
- Method improvement

- **How Management technique can reduce ineffective time?**



Total Time of operation under existing conditions

Basic work content

(Minimum time required to perform one output)

Basic content added by poor product design or material Utilization

INEFFECTIVE

Work content added by inefficient methods of manufacture or operation
+ Poor material handling
+ Poor quality standards
Poor inventory

TIME

Inefficient time due to human contribution
Like: Absenteeism
Bad workmanship
Accidents etc

Total Time of operation under existing conditions



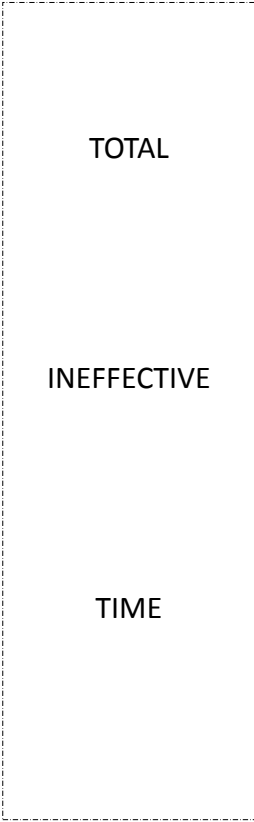
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Option Positive

Some terminologies

- **Total time in a Job:** The time taken by a worker or a machine to carry out an operation to produce a given quantity of certain product.
- **A work Hour:** The labor of one person for one hour.
- **A Machine Hour:** Running of the machine or plant for one hour.
- **Basic work content:** The basic irreducible minimum time theoretically required to produce one unit output. This is a perfect condition which is not achieved in most of the cases.

Work study also aims at the following:

- Simplifying or modifying the methods of operation
- Reduces unnecessary or excess work
- Stops wasteful use of resources
- Contributes to industrial safety by identifying hazardous work and developing safer methods
- Cuts down the time of performing a certain activity.

What is work study?

- One of the most powerful tools to in improving productivity is work study.

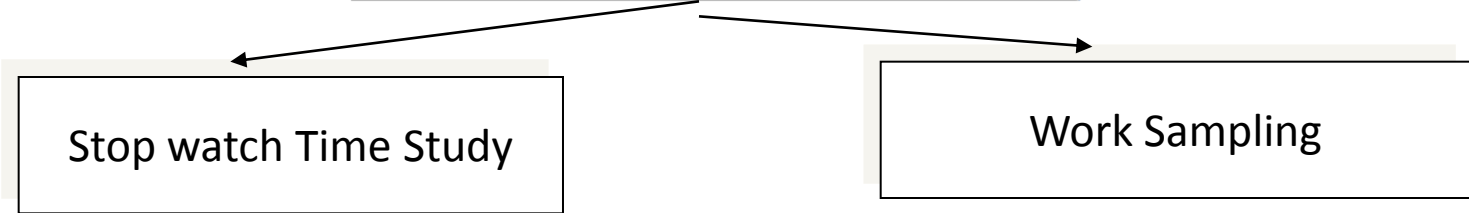
Work study is:

- ✓ The systematic examinations of the methods of carrying on activity
- ✓ To improve effective use of resources
- ✓ To set up standards of performance

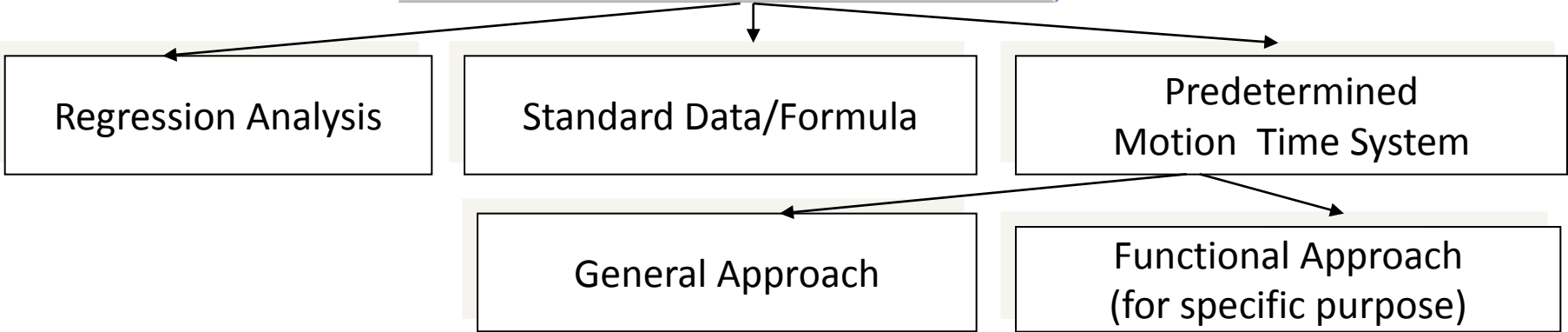
- The design and measurement of work and the problem solving process are fundamental to modern industrial organization.
- Why use it ? :
 - Productivity
 - Improving equipment utilization
 - Conserving materials and energy
 - Reducing human effort
 - Advancing the goals of the organization on many fronts

- A person working with motion and time study will study an individual job or series of jobs to learn the details of what works and make details.
- Changes may be small, but improvements must be made continually to keep the company competitive.
- Quality and price are the most important considerations for staying competitive
- Motion and time study concentrate on reducing cost but must never lost sight on quality

Direct Work Measurement



Indirect Work Measurement



What is motion analysis?

Objectives:

- Detecting moving objects
- Tracking objects
- Deriving 3D properties of objects
- Understanding changes in the scene

What's Going on in Video Analysis?

- Finding and tracking humans
- Recognizing their activities
- Understanding (foreign) news shows
- Determining what's happening in meetings
- Looking for events in videos from unmanned aerial vehicles

THANK YOU