

Work study

- Method study & work measurement
- Defn.- Work study
- It is that body of knowledge concerned with the analysis of the work methods and the equipment used in performing a job, the design of an optimum work method and the standardisation of proposed work methods.

- Work study has contributed immeasurably to the search for better method, and the effective utilisation of this management tool has helped in the accomplishment of higher productivity.
- Work study is a management tool to achieve higher productivity in any organisation whether manufacturing tangible products or offering services to its customers

Objectives

- To analyse the present method of doing a job, systematically in order to develop a new and better method
- To measure the work content of a job by measuring the time required to do the job for a qualified worker and hence to establish standard time.
- To increase the productivity by ensuring the best possible use of human, machine and material resources and to achieve best quality product/ service at minimum possible cost
- To improve operational efficiency

Benefits of work study

- Increased productivity and operational efficiency
- Reduced manufacturing costs
- Improved work place layout
- Better manpower planning and capacity planning
- Fair wages to employees
- Better working conditions to employees
- Improved work flow
- Reduced material handling costs

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- Provides a standard of performance to measure labour efficiency
- Better industrial relations and employee morale
- Basis for sound incentive scheme
- Provides better job satisfaction to employees
- - the purpose of work study is to determine the best or most effective method of accomplishing a necessary operation or function

- Both time study and motion study resulted from the integration of concepts and practices developed by F W Taylor and by Frank and Lillian Gilbreth.
- Concerned with the systematic analysis and improvement of manually controlled work situations

- Time study is a quantitative analysis leading to the establishment of a time standard
- Motion study is a qualitative analysis of a work station leading to the design or improvement of an operation / activity

- The greatest production results when each worker is given a definite task to be performed in a definite time in a definite manner.
 - Dr. Frederick W. Taylor

Work Design or Work System Design

- Systematic investigation of contemplated and present work systems in order to formulate, through the ideal system concept, the easiest and most effective systems and methods for achieving the necessary functions/goals/purposes

Work study

- The generic term used for those techniques, particularly method study and work measurement, which are used in the examination of human work in all its context and which lead systematically to the investigation of the facts which affect efficiency and economy of the situation being reviewed, in order to effect improvement

Methods engineering

- That body of knowledge concerned with the analysis of the methods and the equipment used in performing a job, the design of an optimum method and the standardisation of the proposed methods. Also frequently referred to as “Work Study”

Industrial engineering

- Concerned with the design, improvement and installation of integrated systems of men, materials and equipments to improve productivity

Method study/ Methods Analysis/ Operations Analysis

- The systematic recording and critical examination of existing and proposed ways of doing work as a means of developing and applying easier and more effective methods and reducing costs

Motion study or Motion Analysis

- Detailed study of the manual and /or body motions used in a work-task or at one work area often involving comparative analysis of right hand and left hand motions. (Part of method study)

Work measurement

- The application of techniques designed to establish the time for a qualified worker to carry out a specified job at a defined level of performance.
- A qualified worker is one who is accepted as having the necessary physical attributes, possessing the required intelligence and the education and having acquired the necessary skill and knowledge to carry out the work in hand to satisfactory standards of safety, quantity and quality. - ILO

Work simplification

- Involves improvement in work methods or work flow initiated and developed by workers or supervisors on the job as a result of methods training and /or economic incentives. It is an organised use of common sense to find and apply better ways of doing any work at lesser cost.

Time study

- A technique of work measurement used for determining accurately as possible from a limited number of observations, the time necessary to carry out a given activity at a defined standard of performance. A stop watch is used for the purpose of recording the actual time taken by the worker under observation to perform various elements of the work or task

Basic work study procedure

- Select the job or process or the operation to be studied
- Record all relevant facts about the job or process or operation
- Examine critically all the recorded facts
- Develop the new method
- Measure the work content and establish the standard time
- Define the new method
- Install the new method
- Maintain the new method

Method study or methods analysis

- Work methods analysis or method study is a scientific technique of observing , recording and critically examining the present method of performing a task or operation with the aim of improving the present method and developing a new and cheaper method. It is also known as method improvement or work improvement .

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- It encompasses the study of work processes, working conditions and equipments and tools to carry out the job.
- Method study may be understood as the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier and more effective methods and reducing costs.

Objectives of method study

- To study the existing proposed method of doing any job, operation or activity
- To develop an improved method to improve productivity and to reduce operating costs
- To reduce excessive material handling or movement and thereby reduce fatigue to workmen
- To improve utilisation of resources
- To eliminate wasteful and inefficient motions
- To standardise work methods or processes, working conditions , machinery, equipments and tools.

Advantages of method study

- Work simplification
- Improved working method (cheaper method)
- Better product quality
- Improved work place layout
- Improved equipment design
- Better working conditions
- Better material handling
- Improved work flow

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- Less fatigue to the operator
- Optimum utilisation of all resources
- Higher safety to work men
- Shorter production cycle time
- Higher job satisfaction
- Reduced material consumption and wastages
- Reduced manufacturing cost and higher productivity

Factors facilitating Method study

- High operating cost
- High wastage & scrap
- Excessive movement of materials and workmen
- Excessive production bottlenecks
- Excessive rejections and rework
- Complaints about quality
- Complaints about poor working condition
- Increasing number of accidents
- Excessive use of overtime