



SNS COLLEGE OF TECHNOLOGY
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**PRINCIPLES
OF
MANAGEMENT**



UNIT I

OVERVIEW OF MANAGEMENT

CONTRIBUTION OF TAYLOR

F.W. Taylor and Henry Fayol are generally regarded as the founders of scientific management and administrative management and both provided the bases for science and art of management.

Taylor's Scientific Management

Frederick Winslow Taylor well-known as the founder of scientific management was the first to recognize and emphasize the need for adopting a scientific approach to the task of managing an enterprise. He tried to diagnose the causes of low efficiency in industry and came to the conclusion that much of waste and inefficiency is due to the lack of order and system in the

methods of management. He found that the management was usually ignorant of the amount of work that could be done by a worker in a day as also the best method of doing the job. As a result, it remained largely at the mercy of the workers who deliberately shirked work. He therefore, suggested that those responsible for management should adopt a scientific approach in their work, and make use of "scientific method" for achieving higher efficiency. The scientific method consists essentially of

- (a) Observation
- (b) Measurement
- (c) Experimentation and
- (d) Inference.

He advocated a thorough planning of the job by the management and emphasized the necessity of perfect understanding and co-operation between the management and the workers both for the enlargement of profits and the use of scientific investigation and knowledge in industrial work. He summed up his approach in these words:

- Science, not rule of thumb
- Harmony, not discord
- Co-operation, not individualism
- Maximum output, in place of restricted output
- The development of each man to his greatest efficiency and prosperity.



Elements of Scientific Management: The techniques which Taylor regarded as its essential elements or features may be classified as under:

1. Scientific Task and Rate-setting, work improvement, etc.
2. Planning the Task.
3. Vocational Selection and Training
4. Standardization (of working conditions, material equipment etc.)
5. Specialization
6. Mental Revolution.

1. **Scientific Task and Rate-Setting (work study):** Work study may be defined as the systematic, objective and critical examination of all the factors governing the operational efficiency of any specified activity in order to effect improvement.

Work study includes.

(a) **Methods Study:** The management should try to ensure that the plant is laid out in the best manner and is equipped with the best tools and machinery. The possibilities of eliminating or combining certain operations may be studied.

(b) **Motion Study:** It is a study of the movement, of an operator (or even of a machine) in performing an operation with the purpose of eliminating useless motions.

(c) **Time Study (work measurement):** The basic purpose of time study is to determine the proper time for performing the operation. Such study may be conducted after the motion study. Both time study and motion study help in determining the best method of doing a job and the standard time allowed for it.

(d) **Fatigue Study:** If, a standard task is set without providing for measures to eliminate fatigue, it may either be beyond the workers or the workers may over strain themselves to attain it. It is necessary, therefore, to regulate the working hours and provide for rest pauses at scientifically determined intervals.

(e) **Rate-setting:** Taylor recommended the differential piece wage system, under which workers performing the standard task within prescribed time are paid a much higher rate per unit than inefficient workers who are not able to come up to the standard set.

2. **Planning the Task:** Having set the task which an average worker must strive to perform to get wages at the higher piece-rate, necessary steps have to be taken to plan the production thoroughly so that there is no bottleneck and the work goes on systematically.



3. **Selection and Training:** Scientific Management requires a radical change in the methods and procedures of selecting workers. It is therefore necessary to entrust the task of selection to a central personnel department. The procedure of selection will also have to be systematised. Proper attention has also to be devoted to the training of the workers in the correct methods of work.

4. **Standardization:** Standardization may be introduced in respect of the following.

(a) **Tools and equipment:** By standardization is meant the process of bringing about uniformity. The management must select and store standard tools and implements which will be nearly the best or the best of their kind.

(b) **Speed:** There is usually an optimum speed for every machine. If it is exceeded, it is likely to result in damage to machinery.

(c) **Conditions of Work:** To attain standard performance, the maintenance of standard conditions of ventilation, heating, cooling, humidity, floor space, safety etc., is very essential.

(d) **Materials:** The efficiency of a worker depends on the quality of materials and the method of handling materials.

5. **Specialization:** Scientific management will not be complete without the introduction of specialization. Under this plan, the two functions of 'planning' and 'doing' are separated in the organization of the plant. The 'functional foremen' are specialists who join their heads to give thought to the planning of the performance of operations in the workshop. Taylor suggested eight functional foremen under his scheme of functional foremanship.

(a) **The Route Clerk:** To lay down the sequence of operations and instruct the workers concerned about it.

(b) **The Instruction Card Clerk:** To prepare detailed instructions regarding different aspects of work.

(c) **The Time and Cost Clerk:** To send all information relating to their pay to the workers and to secure proper returns of work from them.

(d) **The Shop Disciplinarian:** To deal with cases of breach of discipline and absenteeism.

(e) **The Gang Boss:** To assemble and set up tools and machines and to teach the workers to make all their personal motions in the quickest and best way.



(f) **The Speed Boss:** To ensure that machines are run at their best speeds and proper tools are used by the workers.

(g) **The Repair Boss:** To ensure that each worker keeps his machine in good order and maintains cleanliness around him and his machines.

(h) **The Inspector:** To show to the worker how to do the work.

6. **Mental Revolution:** At present, industry is divided into two groups – management and labour. The major problem between these two groups is the division of surplus. The management wants the maximum possible share of the surplus as profit; the workers want, as large share in the form of wages. Taylor has in mind the enormous gain that arises from higher productivity. Such gains can be shared both by the management and workers in the form of increased profits and increased wages.