CONTRIBUTION OF F.W.TAYLOR TO SCIENTIFIC MANAGEMENT

Frederick W. Taylor (1856-1915), developer of scientific management. Scientific management (also called Taylorism or the Taylor system) is a theory of management that analyzes and synthesizes workflows, with the objective of improving labour productivity. The core ideas of the theory were developed by Frederick Winslow Taylor in the 1880s and 1890s, and were first published in his monographs, Shop Management (1905) and The Principles of Scientific Management (1911).

Taylor believed that decisions based upon tradition and rules of thumb should be replaced by precise procedures developed after careful study of an individual at work. Its application is contingent on a high level of managerial control over employee work practices. Taylorism is a variation on the theme of efficiency; it is a late 19th and early 20th century instance of the larger recurring theme in human life of increasing efficiency, decreasing waste, and using empirical methods to decide what matters, rather than uncritically accepting pre-existing ideas of what matters. Thus it is a chapter in the larger narrative that also includes, for example, the folk wisdom of thrift, time and motion study, Fordism, and lean manufacturing. It overlapped considerably with the Efficiency Movement, which was the broader cultural echo of scientific management's impact on business managers specifically.

In management literature today, the greatest use of the concept of Taylorism is as a contrast to a new, improved way of doing business. In political and sociological terms, Taylorism can be seen as the division of labour pushed to its logical extreme, with a consequent de-skilling of the worker and dehumanisation of the workplace.

PRINCIPLES OF SCIENTIFIC MANAGEMENT

1. Replacing rule of thumb with science
2. Harmony in group action
3. Co-operation
4. Maximum output
5. Development of workers
General approach
1. Shift in decision making from employees to managers
2. Develop a standard method for performing each job
3. Select workers with appropriate abilities for each job
4. Train workers in the standard method previously developed
5. Support workers by planning their work and eliminating interruptions
6. Provide wage incentives to workers for increased output.

Contributions
• Scientific approach to business management and process improvement
  ❖ Workers and managers must work according to scientific principles rather than working haphazardly when carrying out organizational activities.
• Importance of compensation for performance
  ❖ Organizational activities must be performed in a coordinated and consistent way, not in an inconsistent and incoherent way
• Began the careful study of tasks and jobs.
  ❖ Organizations and their methods, rather than submitting low unproductiveness, must reject this and must try to provide the highest productivity.
  ❖ Specialization in every part of a defined labor must be provided.
• Importance of selection criteria by management
  ❖ Each labor must be parted to sub-factors forming it. When defining activities which workers must carry out, not only intuition and experience but also scientific methods must be used as well.
  ❖ People whose mental and physical skills are sufficient for works being standardized must be chosen that’s to say, the most suitable staff member must be chosen.

Elements
• Labor is defined and authority/responsibility is legitimised/official
• Positions placed in hierarchy and under authority of higher level
• Selection is based upon technical competence, training or experience
• Actions and decisions are recorded to allow continuity and memory
• Management is different from ownership of the organization
• Managers follow rules/procedures to enable reliable/predictable behaviour.

While working in Midvale Company as a manager Taylor observed that employees were not performing as per their capacity of productivity. And he considered that this condition was occurring because of no care towards the waste. Taylor worked towards the experiments at his work place to increase the worker’s efficiency so that maximum output could be achieved by utilizing effort at maximum level.

1. **Scientific task setting:** Taylor observed that the management does not know exactly the works – pieces of work- volume of works- which are to be performed by the workers during a fixed period of time- which is called working day. In a working day how much work is to be done by a worker but be fixed by a manager and the task should be set every day. The process of task setting requires scientific technique. To make a worker do a quantity of work in a working day is called scientific task setting.

2. **Differential payment system:** under this system, a worker received the piece rate benefit which will attract the workers to work more for more amount of wages and more incentives would be created to raise the standardization of output to promote the workers to produce more and perform more task than before and utilize waste time to earn more wages.

3. **Reorganization of supervision:** concepts of separation of planning and doing and functional foremanship were developed. Taylor opines that the workers should only emphasize in planning or in doing. There should be 8 foreman in which 4 are for planning and 4 for doing. For planning they were route clerk, instruction cord clerk, time and cost clerk and disciplinarian. And for doing they were speed boss, gang boss, repair boss and inspector.

4. **Scientific recruiting and training:** staffs and workers should be selected and employed on scientific basis. Management should develop and train every worker by providing proper knowledge and training to increase their skills and make them effective.

5. **Economy:** efficient cost accounting system should be followed to control cost which can minimize the wastages and thoroughly reduced and thus eliminated.
6. **Mental revolution:** Taylor argued that both management and workers should try to understand each other instead of quarrelling for profits and benefits which would increase production, profit and benefits.

**Criticisms**
- Did not appreciate the social context of work and higher needs of workers.
- Did not acknowledge variance among individuals.
- Tended to regard workers as uninformed and ignored their ideas and suggestions.

**TOOLS OF SCIENTIFIC MANAGEMENT**
1. Separation of planning and doing
2. Functional Foremanship
3. Job Analysis
4. Standardization
5. Scientific Selection and training of workers
6. Financial Incentives
7. Economy
8. Mental Revolution