

24.2: Reading- Fredrick Taylor's Scientific Management

Fredrick Taylor's Scientific Management

In 1913, Frederick Taylor published *Principles of Scientific Management*,^[1] ushering in a completely new way of understanding the modern organization. Frederick Taylor was trained as an engineer and played a prominent role in the idea of scientific management. *Scientific management* is a management-oriented and production-centered perspective of organizational communication.^[2] Taylor believed that the reason most organizations failed was because they lacked successful systematic management. He wrote that “the best management is true science resting upon clearly defined laws, rules, and principles, as a foundation.”^[3] He further noted that “under scientific management, arbitrary power, arbitrary dictation ceases, and every single subject, large and small, becomes a question for scientific investigation, for reduction to law.”^[4] Taylor believed that any job could be performed better if it were investigated scientifically. Taylor developed time and motion studies that helped improve organizational efficiency.

Working as a foreman for the Bethlehem Steel Works in the 1900s, Taylor observed how workers could do more with less time. He analyzed coal shoveling at the factory and noticed that several workers brought different sizes of shovels from home. Workers who brought small shovels could do more but it took them longer, and workers who brought big shovels could do less but it was faster. He observed that the best size shovel was one weighing about twenty pounds. As a result, he directed the organization to provide all the workers with the same size shovel. He also provided pay incentives for workers who could shovel more coal. By making these changes, the organization dramatically increased its production.

Taylor believed that several steps must be taken in order to create a more productive organization. First, one must examine the job or task. Second, one needs to determine the best way to complete the job or task. Third, one must choose the most appropriate person for the task while at the same time providing proper compensation. Last, one must be able to train the person to do the task efficiently. Taylor believed that by using these scientific steps organizations gain efficiencies.

Taylor's idea of scientific management originated during a time when most worker training was based on apprenticeship models. In an apprenticeship, a person would be taught by a more skilled and experienced person, who would demonstrate the task so the inexperienced person could model the behavior. Taylor believed that this was a very ineffective way of training because he felt that workers would differ in terms of the tasks they performed, and the quality or efficiency of task completion would depend on the kind of training they received. Taylor argued that there should be only one way to explain the job and one way to execute the task. He didn't think the training of apprentices should be left to individual “experts.”

Overall, Taylor felt that employees are lazy and need constant supervision. He posited that “the tendency of the average [employee] is toward working at a slow easy gait.” He called this tendency “natural soldiering” (“soldiering” is another word for “taking it easy”). One's natural tendency to take it easy on the job can also be affected by “systematic soldiering,” which occurs when employees decrease their work production based on input or communications from others or if they feel that working harder will not result in greater compensation. When employees are paid by the hour, there is an additional incentive to slow down—it's better to “soldier” and show that tasks take longer than might really be necessary. On account of what he took to be workers' inherent laziness, Taylor understood the impact of workers on production rates and the need for more efficient work practices.

Taylor is known for developing *time and motion studies* of work. These were methods for calculating production efficiency by recording outcomes and the time it takes to produce those outcomes. Taylor believed that if each task were scientifically designed and the workers could be trained, then production could be measured by timing the labor the workers performed. The idea was to create quantified benchmarks for work in order to improve efficiency and production outcomes. Taylor's time and motion studies were furthered by Frank Gilbreth, who used film to capture workers in action to gain a better understanding of physical movements.^[5] In the following video, you can see the work of Frank Gilbreth, along with his wife Lilian, as they attempted to use time and motion techniques to make bricklaying more effective, productive, and profitable.



In the first half of the video, the initial configuration of the scaffolding required the bricklayers to do a lot of bending. The bending motion not only took more time but also increased the workers' fatigue as the day wore on, making them less effective and productive. In the second half of the video, after the time and motion study, you saw the solution: a new scaffolding arrangement that no longer required bending over to pick up the bricks. It was time and motion studies like these that enabled researchers (and employers) to investigate the mechanics of *doing work*—which, in many cases, led to genuine improvements in worker conditions and work techniques.

Taylor's mechanistic vision applied to organizations as a whole: ideally, work tasks would be clearcut and simple, and the sum total of employees efficiently performing their tasks would be a company that runs like a well-functioning machine.

Taylor's ideas do not leave much room for flexibility, creativity, or originality on the worker's part. In his view, there is a strong and necessary division between managers, who do the thinking, and workers, who do the laboring. Nor do Taylor's scientific principles address the messier, more human side of organizational management—things like interpersonal relationships, work motivation, and turbulence in organizations. Taylor didn't think it was important to build rapport with workers. Managers ought to communicate in a straightforward manner; employees don't need to give input—they just need to know how to do their jobs.

Though Taylor's ideas were wildly popular in their day, they had detractors even then. As early as 1912, the U.S. Commission on Industrial Relations expressed skepticism about scientific management (what many were calling "Taylorism"):

To sum up, scientific management in practice generally tends to weaken the competitive power of the individual worker and thwarts the formation of shop groups and weakens group solidarity; moreover, generally scientific management is lacking in the arrangements and machinery necessary for the actual voicing of the workers ideas and complaints and for the democratic consideration and adjustment of grievances.^[6]

Check Your Understanding

Answer the question(s) below to see how well you understand the topics covered in this section. This short quiz does **not** count toward your grade in the class, and you can retake it an unlimited number of times.

Use this quiz to check your understanding and decide whether to (1) study the previous section further or (2) move on to the next section.

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1. Taylor, F. (1913). Principles of scientific management. New York, NY: Harper. ↵
 2. Einsenberg, E. M., & Goodall, H. L., Jr. (1993). Organizational communication: Balancing creativity and constraint. New York, NY: St. Martin's Press. ↵
 3. Taylor, F. (1913). Principles of scientific management. New York: Harper, pg. 19. ↵
 4. Ibid., p 211 ↵

5. Nadworny, M. J. (1957). Frederick Taylor and Frank Gilbreth: Competition in scientific management. *Business History Review*, 31, 23–34. ↩
6. U.S. Commission on Industrial Relations (1912). A government evaluation of scientific management: Final report and testimony. Washington, D. C.: Government Printing Office, pg. 136. ↩

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