

## 2.10: Scientific Management Theories

### Learning Outcomes

- Discuss classical scientific management theories

The foundation for modern human resource management was established in the early 1900s, with the emergence of scientific management principles. Influential classical scientific management theorists include Dr. Frederick Taylor as well as Frank Gilbreth and his wife, Dr. Lillian Gilbreth. The contributions of two additional thought leaders of the classical period, administrative theorist Henri Fayol and humanist Mary Parker Follett, will be discussed in subsequent sections.

Considered the “father of scientific management,” Dr. Taylor published his principles, also referred to as “Taylorism,” in a paper titled “The Principles of Scientific Management” in 1911.<sup>[1]</sup> In his introduction, Taylor observes that:

The search for better, for more competent men...was never more vigorous than it is now. And more than ever before is the demand for competent men in excess of the supply. What we are all looking for, however, is the ready-made, competent man; the man whom some one else has trained. It is only when we fully realize that our duty, as well as our opportunity, lies in systematically cooperating to train and to make this competent man, instead of in hunting for a man whom some one else has trained, that we shall be on the road to national efficiency.



Figure 1. Frederick Winslow Taylor

Taylor’s argument was that the remedy to inefficiency was systematic management, rather than the search for an extraordinary human resource. Specifically, he sought to prove that “the best management is a true science,” and “to show that the fundamental principles of scientific management are applicable to human activities.” And, ultimately, that the correct application of these principles can yield exceptional improvements in efficiency.

In contrast to the labor abuses and hostility common in America’s early industrial age, Taylor believed that the purpose of management was to maximize both employer and employee prosperity. In terms of the individual employee, maximum prosperity means not only maximizing one’s wage but developing each man to his state of maximum efficiency. A mechanical engineer by training, Taylor designed a number of time and motion studies to determine the one best way to complete a specific task. Taylor distilled his research into four principles of scientific management:

1. Apply the scientific method to analyze work and determine the most efficient way to perform every task.
2. Match workers to jobs based on their capability and motivation and train them to work at maximum efficiency.
3. Provide instruction and supervision to ensure that the “best” method is being used to complete each task.
4. Divide work between managers and workers, with managers focusing on planning and training and workers focusing on production.



Figure 2. Lillian Gilbreth

Dr. Lillian Gilbreth and her husband Frank were also pioneers in the field of scientific management. Like Taylor, the Gilbreth's applied their engineering skills to identifying "the one best way" to perform a task. In addition to time and motion studies, the couple used film to identify opportunities to improve work processes. In his lifetime, Frank Gilbreth, the "father of motion study," made over 250,000 feet of 35mm of motion picture films; for perspective, Motion Pictures in the Human Sciences' website has a page with links to his films: [The Original Films of Frank Gilbreth](#). Frank's major contribution was to categorize human work as a number of individual motions, termed "Therbligs," and then optimize these motions to improve efficiency—a process he applied to operations ranging from bricklaying to surgery.<sup>[2]</sup>

The couple, who had 12 children, also "mainstreamed home economics and domestic management."<sup>[3]</sup> A psychologist as well as an industrial engineer, Lillian Gilbreth is credited with a number of inventions including shelves on the inside of refrigerator doors, the foot pedal on the trash can, wall light switches, and the linear kitchen layout. In a biography of Lillian Gilbreth, The American Society of Mechanical Engineer notes that she is referred to "the mother of modern management" and "was awarded the prestigious Hoover Award, jointly bestowed by five leading engineering organizations in recognition of 'great, unselfish, non-technical services by engineers to humanity.'"<sup>[4]</sup>

### ? Practice Question

<https://assessments.lumenlearning.co...essments/18103>

1. Taylor, Frederick. "The Principles of Scientific Management." New York and London: Harper & Brothers Publishers. 1911. ↵
2. "The Tale of Taylor and Gilbreth." All About Lean. November 10, 2013. Accessed July 29, 2019. ↵
3. Paules-Bronet, Ileana. "The Movie 'Cheaper by the Dozen' Was Inspired by a Real 1920's Family With 12 Children." Little Things. Accessed July 29, 2019. ↵
4. Giges, Nancy. "Lillian Moller Gilbreth." ASME.org. April 30, 2012. Accessed July 29, 2019. ↵

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