

Taylorism and scientific management: work design influences



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The origin of modern management consulting dates back to the early 1900's when Frederick Winslow Taylor, an American mechanical engineer published his work, The Principles of Scientific Management. In his study, Taylor argued that scientific management consisted in devising the one best way to complete a task and then ensuring the workman closely followed the rules, by supervision and incentives. This essay will primarily attempt to discuss a proposition that Scientific Management in the 21st century dominates the work design within large firms. Starting with what scientific management is and how it evolved, we will analyze some modern day examples of firms that have adopted Taylorist approach in their businesses. Further, we will highlight both strengths and weaknesses of this approach and also touch base with the works of other authors in the similar domain.

Evolution of Scientific Management

Adam Smith, the father of Economics, originally developed scientific management in the 1800s. Interested in a factory that operated and produced pins at the rate of 20 pins per employees per day, he applied division of labour i. e. breaking down of complex tasks into numerous simple tasks. As a result of this change, each employee produced 4800 pins per day, a staggering 23900% increase in productivity. However, the greatest breakthrough in scientific management came during the industrial revolution when factories were only focussed on mass production. Workers were trained through lengthy apprenticeships and followed “ Rules of Thumb” i. e. they enjoyed much initiative and control on how their tasks were completed. Also, there was a need to systemize managerial practices. It was here when Taylor, an advisor at the Bethlehem Steel plant, started working towards improving worker productivity after observing gross inefficiencies during his contact with the steel workers. He conducted time study and measured performance standards to calculate a full, fair day’s standard for each task and then emphasized on selection of workers who could meet those standards when motivated by the differential piece rate system.

In his book, Taylor (1967, p. 10) states ‘ prosperity for the employer cannot exist through a long term of years unless it is accompanied by prosperity for the employee, and vice versa; and that it is possible to give the workman what he most wants – high wages – and the employer what he wants – a lower labour cost – for his manufacturers’. Taylor further suggests that maximum prosperity for a worker can exist only when he has reached his highest state of efficiency and to implement scientific management, the

management had to assume much larger share of the responsibility for result rather than the worker and that a manager's job is to tell employees what to do and a workers job is to do what they are told and get paid accordingly.

Taylor, through various experiment, proposed the four principles of scientific management. First, replace rule-of-thumb work methods with methods based on a scientific study of the tasks. Second, scientifically select, train, and develop each worker rather than passively leaving them to train themselves. Third, cooperate with the workers to ensure that the scientifically developed methods are being followed. And finally, divide work nearly equally between managers and workers, so that the managers apply scientific management principles to planning the work and the workers actually perform the tasks (Taylor, 1967).

Taylorism in Industry

The First major firm to adopt the principles of scientific management was the Ford Motor Company in 1914. Henry ford believed that the more cars they produce, the more they can sell. His main objective was to mass-produce. Hence he built an assembly-line system, with a constantly moving conveyor belt and minute subdivision of labour. Through subdivision, a complex task was broken into a series of simple tasks for which workers had instructions on how to do it and when to do it. Taylor's system insured the most efficient work process was selected and standardized. This way,

Ford could employ staff for as cheap as possible and yet keep the quality and efficiency at a satisfactory level. The difference in the productivity levels was

striking. Before the assembly line was setup, each car chassis was assembled by one man, taking a time of about twelve and a half hours. Later, with standardization and sub division, the total labour time was reduced to ninety-three minutes per car. This movement of Ford was given the name of ' Fordism'.

Taylorism in the 21st century

In the 21st century, you can hardly find a successful business enterprise that does not implement the principles of scientific management. It is not that managers study Taylorism before adopting it; in fact these methods of working are so logical that it's quite natural to base an efficient business on these principles.

McDonalds, the world's largest chain of fast food restaurants can be seen as a major implementer of scientific management. They have setup their business on the similar lines of a what Henry Ford did to his manufacturing plant, by implementing a human assembly line, where they use food items instead of car parts, and churn out " Fast Food" instead of automobiles. They follow the highest levels of standardization and sub division. George Ritzer (1996) in his book, " The McDonaldization of Society" says that the impact of Taylor's " time and motion" studies is very strongly felt at McDonalds. He reiterates Taylors philosophy that the most efficient ways of performing a task has been codified and taught to managers, who further explain to workers. The degree of standardization at McDonalds can be perceived when Ritzer (1996, p. 46) mentions, ' For instance, hamburger chains strive to discover and implement the " one best way" to grill hamburgers, cook French fries, prepare shakes, process customers, and the rest'.

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One of the major characteristics of Taylorism was the separation of planning, designing and decision making unit of a firm from the production unit.

Braverman (1974) supports this attribute of Taylorism in his claim that the production unit operates like a hand that is watched, controlled and corrected by a distant brain, i. e. the management unit. This aspect of Taylorism is very evident in the design of a firm's customer care call center. Companies operating in one part of the world often setup/outsource their customer service call centers into countries in another part. For example, an organization based in the UK has its service call center setup in India where labour is very cheap and government policies are favorable. The workers, who may not be skilled, are trained to repeat ad infinitum the same scripted words over and over again and function as a human assembly line. While manufacturing may be moving away from Taylorism, for reasons we will see in the later part of the essay, but the service sector is readily embracing it (Batt & Moynihan, 2002).

Limitations

However, adapting such high levels of standardization and division of labour has some serious limitations. Performing the same simple task, over and over again makes a worker's life monotonous and boring. The worker in such an environment is as good as a robotic arm. Ritzer (1996, p. 110) criticizes Taylor by stating, ' Taylor's attitude is one precursor to the contemporary effort to reduce human activities to robot-like actions so that humans can actually be replaced by robots. Because Taylor did not have Robots at his disposal, all he could do was hire humans, then dictate to them in great detail what they were to do on the job'. To illustrate this further, a Taylorist

environment is analogous to software development. Software applications are developed by programmers who write the program code and machines that execute the code and generate output. By giving detailed instructions to workers on what to do and when to do, managers act as programmers and workers as mere machines that execute the given instructions and generate output. They are not allowed to apply their ideas or exercise any kind of control.

As a critique to McDonald's highly scientific and standardized approach, Ritzer (1996, p. 15) states that ' People have the potential to be far more thoughtful, skillful and creative, and well rounded than they are now. If the world were less McDonaldized, people would be better to live up to their human potential'. Braverman (1974) substantiates this claim in his statement, ' Taylorism dominates the world of production; the practitioners of human relations and industrial psychology are the maintenance crew for the human machinery'.

Hence, in such a work environment, it is hard to motivate employees since money is not always a motivating factor. Some people work for reasons other than financial reward. Also, workers are not homogeneous in their attitudes, work and personality. So the ' one best way' may not be the best for all. By following this approach, firms are de-skilling workers and encouraging them to underperform.

Another limitation of the Taylorist approach was that it inspired bureaucracy. According to Warring (1992, p. 206), by centralizing power with managers, separating planning from performance, and specializing tasks, firms were

encouraging excessive bureaucracy. Managers did not visit the production floor and were thus ignorant of many production matters. They manipulated people like any other factor of production. There was thus a quest to develop an alternative to Taylorism, which called for a stop to treating employees as factors of production, and begin treating them as respected members of community.

Human Relation Management

The limitations of Taylorism along with practical problems caused by it led to the birth of the human relations school of thought. The movement was established by Elton Mayo, when he conducted a series of behavioral experiments called the Hawthorne Experiments (1924-1933). Two-way communication was encouraged i. e. from worker to chief executive and vice versa for effective management. McGregor (1960) in his book ' Management and Scientific Knowledge' argues that the human relations school is a movement forward from Taylor by inculcating social science into scientific management. He advocated the contribution of social science towards greater productivity in the firm and stated that without predicting human behavior, the control over workers was even harder. He suggested that incentive structure for employee motivation should be aligned with human nature and also claimed that Taylor did not care about ethical values.

Conclusion

While its is not quite clear that Taylor did not care about ethics and worker motivation as he himself was once a worker at the steel plant. He had also given the idea of setting up suggestion boxes for workers on the shop floor.

His main emphasis was on finding the best man for a particular task and motivating him through an incentive structure.

Manufacturing today, is moving away from Taylorism. Customers now have more specialized and customized interests. They are willing to pay extra for quality and a differentiated product. Hence, the interest in mass production is declining. Also, with the advent of technology, firms can afford to be more flexible in their production process and reduce the involvement of humans in Repetitive tasks that do not require skill.

It is difficult to summarize if Taylorism in its exact sense is dominantly implemented in the 21st century. Just like Henry Ford, Firms have interpreted and modified the scientific management principles in ways to suit their style of business, however, the crux of their efficient existence lies in the principles stated by Taylor.

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