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# TWO APPROCHES TO THE SCIENTIFIC MANAGEMENT

## Historical Review of the Principals of Management

The traditional model characterised as administration under "the formal control of political leadership, based on a strictly hierarchical model of bureaucracy, staffed by permanent , neutral and anonymous officials, motivated only by the public interest, serving any governing party equally and not contributing to policy but merely administering those policies decided by the politicians" (Public Management and Administration and Introduction by Owen E Huges, p.23).

By the 1920s this model was fully formed and continued with extremely little change for at least fifty years. "Young" practitioners were so assured of their theories and they believed that the improvement of government and its administration would promote a better life for all.

After the critique of the theory of the separation between administration and politics considered as the myth to tolerate that politicians and administrators could be separated, the argument took place between scholars of public administration.

Nevertheless the political control and the theoretical basis of the bureaucracy were thoroughly established and unchanged, there were public sector adaptations of management theory. The row of imports from the private sector took place and the most important is the scientific management. That was explained by pretending that Public Management is able to be non-political and hence the operational methods used in the public sector would be the same as those used in the private sector.

But the larger waste is still human resources, like human efforts, which go on every day through such of our acts as are blundering, ill-directed or inefficient, and which referred to as a lack of "national efficiency".

## Scientific Management School

The basic assumption of this school is the philosophy that workers, at the operational level, are economically motivated and that they will put forth their best efforts if they are rewarded financially. The emphasis is on maximum output with minimum strain, eliminating waste and efficiency. The work of Frederick Winslow Taylor dominates the thinking of this "school".

## Biography of F.Taylor

Frederick Winslow Taylor (1856-1915) was a mechanical engineer whose writings on efficiency and scientific management were widely read. Taylor devised the system he called *scientific management*, a form of industrial engineering that established the organisation of work. The main goal of his theory was to increase productivity. And at the same time he did not favour unions or industrial democracy. That's why his theory is regarded as authoritarian style of administration.

Efficiency was the most important theme of Taylor's works. As a steel works manager in Philadelphia, he was interested in knowing how to get more work out of workers, who are "naturally lazy and engage in systematic soldiering." This attitude, he found, was contributed to by poor management. He observed "when a naturally energetic man works for a few days beside a lazy one, the logic of the situation is unanswerable. "Why should I work hard when the lazy fellow gets the same pay that I do and does only half as much work?". He proposed using scientific research methods to discover the one best way to do a job.

Taylor's efforts were resented by unions and managers alike: managers because their intuition and discretion were challenged, unions because their roles were questioned. Taylor was fired from his original job in Philadelphia. He then went to Bethlehem Steel, where he again was fired after three years. The unions, indignant by this time, were instrumental in getting his methods investigated by a special congressional committee; they succeeded in forbidding the use of "stop watches" and "bonuses" in army arsenals until World War II. However, his concepts spread to Europe and Great Britain and received impetus in the Soviet Union after the Revolution. Many maintain that this movement represents techniques only and "hinders" the development of a philosophy.

## Conception of Frederic Taylor

Tayrol's attitude toward work was that man and machine are similar. He stated that "it is no single element, but rather this whole combination, that constitutes scientific management, which may be summarised as: 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."

Taylor believed that the best management is the true science, resting upon clearly defined laws, rules, and principles of scientific management which are applicable to all kinds of human activities, from our simple individual acts to the work of our great corporations, which call for the most elaborate co-operation. He also believed that whenever these principles correctly applied, results must follow which are truly.

Taylor expounded several basic principles:

1)To gather all traditional knowledge and classify, tabulate, and reduce it to rules, laws, and formulas so as to help workers in their daily work.

2)To develop a science of each element of man's work to replace the rule-of-thumb method.

3)To scientifically select and then train, teach, and develop the worker.

4) To co-operate with workers to ensure is done according to developed science principles.

5) To effect an almost equal division of work and responsibility between workers and managers are to be given work for which they are best fitted, as are employees.

He felt that faster work could be assured only through:

1)enforced standardisation of methods  
2)enforced adaptation of best instruments and working conditions  
3)enforced co-operation

Scientific management as a process involves:

1) time-and-motion studies to decide a standard for working;

2) a wage-incentive system that was a modification of the piecework method already in existence;

3)changing the functional organisation.

Although he hasn't invented time-and-motion studies but did carry them out more thoroughly than predecessors.

Among the experiments he performed to prove his theory were:

**1. Work study**:  
One experiment detailed movements of workers in a shop and suggested short cuts or more efficient ways of performing certain operations. Within three years the output of the shop had doubled.

**2. Standardised tools for shops:**  
In another area he found that the coal shovels being used weighed from 16 to 38 pounds. After experimenting, it was found that 21-22 pounds was the best weight. Again, after three years 140 men were doing what had previously been done by between 400 and 600 men.

**3. Selection and training of workers:**  
Taylor insisted that each worker be assigned to do what he was best suited for and that those who exceeded the defined work be paid "bonuses." Production, as might be expected, rose to an all-time high.

Taylor, as a result of these experiments, advocated assignment of supervisors by "function" - that is, one for training, one for discipline, etc. This functional approach is evident today in many organisations, including libraries.

Taylor took many of his concepts from the bureaucratic model developed by Max Weber, particularly in regard to rules and procedures for the conduct of work in organisations. Weber, the first to articulate a theory of authority structure in organisations, distinguished between power and authority, between compelling action and voluntary response. He identified three characteristics which aided authority:

1) charisma (personality)  
2) tradition (custom)  
3) bureaucracy (through rules and regulations)

The concept of bureaucracy developed about the same time as scientific management, and thoughts on specialisation of work, levels of authority, and control all emerged from Weber's writings. Weber was more concerned with the structure of the organisation in which people perform their work roles, rather than with the individual. Most of his writings and research related to the importance of specialisation in labour, regulations and procedures, and the advantages of a hierarchical system in making informed decisions.

**Luther Gulick and Lyndal Urvick's Principals of Administration**

The culmination of the Principles of Administration Approach was the publication of Luther Gulick and Lyndall Urwick's Papers on the Science of Administration. In that time, 1937, public administration scholars had come to believe in a static set of principles by which any organisation could be designed or its function improved. These principles, implied that organisations were very much like machines, and that managers could follow a set of formulae to maximise their efficiency.

Luther Gulick and Lyndall Urwick are known in the world for the work "Notes on a Theory of Organization" issued in 1937. They developed the acronym POSDCORB to describe the administrative functions of managers.

POSDCORB stands for:

**P**lanning - Preparing methodical plans for managing programs;

**O**rganising - Creating the different sub-units of the organisation;

**S**taffing - Hiring competent employees to fill vacancies;

**D**irecting - Issuing directives with time and performance criteria;

**C**o-ordinating - Interrelating employees' effort efficiently;

**R**eporting - reports for superiors;

**B**udgeting - Preparing and executing budgets.

# Analysis of two stands

An often repeated criticism of the scientific management approach is that it overemphasised productivity and underemphasised human nature. This criticism is well expressed by Amitai Etzioni, who wrote that "although Taylor originally set out to study the interaction between human characteristics and the characteristics of the machine, the relationship between these two elements which make up the industrial work process, he ended up by focusing on a far more limited subject: the physical characteristics of the human body in routine jobs - e.g., shovelling coal or picking up loads. Eventually Taylor came to view human and machine resources not so much as mutually adapt able, but rather man functioning as an appendage to the industrial machine". Similar criticism could be levelled at other movements within the scientific management approach. The Scientific Management approach directed to create scientific, specialized, technocratic environment which makes it clear how to be more productive and maximize rewards. But his theory can be seen as one-sided. You cannot interpret the human being as a machine as it has it's own interest, it's own needs, that the human being is a entity of the different moods and emotions. He hasn't counted that the motivating factor for employees can be not only monetary, worker can be motivated for example by the interest of working in the particular field (e.g. teachers do not owe a lot of money from their work but they are usually motivated by the interest working with people; e.g. some tourists guides also do not owe a lot of money but they are interested in meeting new people and travelling), experience that he/she would gain through being on particular working place (e.g. nurse doesn't get much money for her work, but she wants to get more experience with time). It is also noted that

design of work procedures is not possible to establish in every field.

Luther Gulick and Lyndall Urwick tried to establish principles of management to motivate worker they believed that economic efficiency rooted in human tendency toward rationality and order.

As with the Principles of Administration Approach, subsequent experience has shown public organisations, and the implementation process, to be far more complex than was imagined in 1937.

The both of theories was searching for the "one best way of doing work" for increasing of productivity, efficiency and effectiveness of completing any work. But implementation of each of them has limited effect on the productivity and depends on particular circumstances.

Not any of listed theories can be implemented in modern society, specially in modern Public Administration, the reason for that is extremely complicated human relations. Public Administration is a human science therefore human behaviour plays the most important role in the subject of PA.

Therefore, there is no use in implementing of the considered theories of Science Management in practice.

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