

# Fw taylors contribution to management



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Locke (1982) evaluates Taylor's ideas in relation to modern management, and argues that both Taylor's philosophy of Scientific Management as well as his techniques, such as time and motion studies, continues to influence modern management. Wagner-Tsukamoto develops Locke's argument that Taylor has " a high and continuing relevance for contemporary management theory and practice". He states that Taylor was an " early pioneer" of institutional economics - and those subsequent revisions to Taylor's Scientific Management remedied early implementation problems. Further, he argues that scientific management and institutional economics can " advise us on organizational problems, especially in " modern" interaction contexts that are defined by diversity and pluralism." (Wagner-Tsukamoto, 2007, p1&p10) According to Wagner-Tsukamoto, diversity and pluralism actually typified Taylor's time as factories were ethnically and culturally diverse. The father of scientific management is termed as F. W. Taylor. His prime contribution in the field of management is the founding of efficiency movement and the start of the progressive era ([www. oppapers. com](http://www.oppapers.com)). As the name of the movement implies, was a scientific approach to managerial decision making. Taylor's principles of scientific management began a new era where scientific meant based on proven facts rather than tradition, rule of thumb, guesswork, personal opinion etc. Taylor's goal was to forge a " mental revolution" in management, and in this aim he clearly succeeded. Drucker wrote that " Taylor was the first man in history who actually studied work seriously". A second element of Taylor's philosophy of management, and the other key aspect of the mental revolution that he advocated, concerned the relationship between management and labor (Locke, 1982). He focused on the relationship between management and labor and looked

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to develop the science of integrating men with machines. As a result of those early problems with industrial relations, Taylor started to think that “scientific management” was to address employee’s management in the following ways (Taylor introductory notes, Rouchy P.):

The objectives of good management are to pay high wages and have low units of production cost (efficiency).

To achieve these objectives, management has to apply “scientific methods” of research and experiment leading to the formulation of principles and standard processes making the manufacturing operation better.

Employees should have materials and working conditions reaching a scientific standard. Training should be part of it to improve the level of skills and the standard output.

Close and friendly cooperation has to be cultivated between management and the workers to fulfill the objectives of scientific management thus mentioned.

At the Midval Steel Company, Taylor began to develop Scientific Management practices. Taylor’s system or “scientific management” consists to start at looking at the shop floor management of man and work. Both domains have been neglected in the early evolution of industrial work. The concept of “scientific” embodied the idea that man and their work had to be systematically investigated but also it suggested more rhetorically that the organization of work itself was important and worth studying. Therefore it justified that management and engineers alike to pay attention to those

aspects of work (the shop floor) that had long been neglected by management that had never been sensitized (due to the military educational styles of engineering schools) to the realities of work. Taylor's principles of scientific management try to address aspects of work such as (Taylor introductory notes, Rouchy P.):

Considering working experience as a science versus rules of thumbs;

harmony between management and workers rather than discord;

maximum production output versus restricted output;

Workers development including both better efficiency and prosperity.

In order to consider work other than the unknown result of activities of workers to whom management officials gives order, Taylor started to look at different dimensions of work in order to get a grip of what and how to improve working condition and efficiency in the same time. While at Midvale, Taylor began to analyze the effectiveness of the piece-work system which the firm implemented. He started to develop a series of innovation regarding manufacturing work. Notably, he established (Taylor introductory notes, Rouchy P.):

Time and Motion Studies

Standardised tools and procedures

Task

Money Bonus (or pay incentive)

## Individualised Work

## Management Responsibility for Training

## Scientific Selection of Workers

## Shortening Working Hours and Establishing Rest Pause

## Time and Motion Studies

Before Taylor, there was no objective method for determining how fast a job should be done. Most managers simply used past experience as a guide. Taylor's solution was to break down the work task into its constituent elements or motions; to eliminate wasted motions so the work would be done in the "one best way" (Locke, 1982). However, Taylor used time study to analyze the component parts of tasks and to determine future standards and rates of pay. He began by demonstrating to workers that through careful analysis of the work of the firm, accurate and fair standards of output could be set. One needs to remember that at Taylor epoch, there was method for determining how fast a job should be done. He set out to identify what a workers output should be in one day and then looked to establish fair rates of pay for what all would agree was a fair days work. By breaking down work task into different elements, he could analyze the motion of workers with the objectives to determine if there are no better ways to perform some given activities. This could be the precursor of today's "best practices". Time studies established the ideas of "fatigue allowances" and "workers' resistances" to heavy task and "timetable" (Taylor Introductory notes, Philippe Rouchy).

## Standardized tools and procedures

Before scientific management, every workman had his own private tool box. Those craftsmen practices went against efficiency since workers did not necessarily had right tools and did not invest to renew their tooling if it was for their company (instead of themselves). Taylor pushed strongly for standardization in the design and use of tools. (e. g., the best size and shape for coal shovels). Taylor declared that setting standards, planning work and creating incentive schemes were part of the management task (Taylor introductory notes, Rouchy P.).

## Task Management

Taylor advocated that each worker be assigned a specific amount of work, of a certain quality, each day based on the results of time study. This assigned quota he called a “ task”. Taylor was interested in task management, as a result of his close analysis of work and incentives. In fact, the “ task system” was Taylor way to define management as “ knowing exactly what you want men to do, and then seeing that they do it in the best and cheapest way.” In this sense, the task was a central piece in the consideration of what management was about. In Taylor’s view, the task is what the assignment workers is demanded to perform with a certain quality in a given time. One of the important implications of defining task was to be able to define payment that could be individualised according to the quality of the work produced. Taylor did not think that this definition fully captured what he called the “ art of management”. But he did think that employer/employee relations formed the greatest element of this art. Management needed to

design the job and its tasks with written instructions and a definite time allocated. Workers who met the standards were paid highly whereas those who did not, were paid a basic wage (Taylor introductory notes, Rouchy P.).

The pressure on the manager was intense as analysis, planning and control became more complex. Taylor developed the concept of the “ functional foreman” as the model for a superior manager who would possess the qualities necessary to carry out this role. Taylor suggested that authority should be aligned to knowledge rather than position which led to an early form of delegated responsibility and authority. He created the “ exception principle” which freed more senior managers from the detailed analysis and control role of the functional foreman. This meant that managers received condensed reports on only exceptions to the set standards. This left him free to consider the broader line of policy and to lead the men below him more effectively. This was one of Taylor’s most important contributions and effectively set him up for a later career as a consultant, one which he discharged to great effect (Taylor introductory notes, Rouchy P.).

#### Incentives /The Money Bonus

Taylor also endeavored to produce an answer to the incentive problem he had uncovered at Midvale. He had concluded that piece-rate incentives and other payment on performance approaches were crucially flawed in at least the fact that they relied on workers determining the standards of output.

Taylor proposed a new system based on three key elements (Taylor introductory notes, Rouchy P.):

Observation and analysis of work and processes through time study in order to set rates of pay;

A differential rate of piece-work pay;

Paying men and not positions.

In this list of proposition, one sees that Taylor recognises clearly that workers were mainly interested in improving their salaries. Taylor thought that profit sharing was flawed as it discouraged personal ambition and became a remote challenge in the life of the worker. He considered that workers wanted to be rewarded on their individual performances (very much as a craftsman would like to be) within an industrial organisation. By 1895, Taylor had fully committed to the idea that management was to blame for what he saw as poorly managed workforce in industrialised America. His idea was to create a rate-setting department within a firm, responsible for setting work standards and rates of pay for each task. This is thanks to this analysis that scientific management would lead to significant improvements in work output and motivation among the workforce (Taylor introductory notes, Rouchy P.).

### Individualised Work

Taylor was a staunch advocate of individual as opposed to group tasks, as well as individual rewards, because he believed that group work and rewards undermined individual productivity, due to such phenomena as “ systematic soldiering.” Taylor wrote, “ Personal ambition always has been and will remain a more powerful incentive to exertion than a desire for the general



welfare” One sees that Taylor was skeptical of the role of unions in rate-setting. Unions, at that time, were supporting a common rule with wage standardization for all. This, according to Taylor, denied individual workers any personal ambition, and working against the idea of getting a better pay for better work (Taylor Introductory notes, Philippe Rouchy). He believed that the management of that era was amateurish and he propounded that it should be taught as a separate discipline and to get the best result from the work force there should be partnership between qualified management and cooperative workforce. It was he who said that the trade unions were irrelevant as both the sides were important for each other’s existence (www.oppapers.com).

#### Management Responsibility for Training

Taylor started the idea that it was management responsibility to make sure that employees get proper training to perform their job rather than been left to the haphazard of more experienced workers (Taylor introductory notes, Rouchy P.).

#### The selection of workers

Taylor suggested employers should no longer seek cheap labour with the resultant low output. Instead they should pay first class workers a higher wage, with the resultant lower unit costs of production. Taylor believed that almost all workers could be defined as “ first class” as long as it was related to their potential to reveal “ high aptitudes”. Those with high aptitudes should be rewarded since they would naturally induce a higher productivity (Taylor introductory notes, Rouchy P.).

## Shorter Working Hours and Rest Pause

It was the first time that managers were considering to reduce the fatigue of workers by reducing their working hours. Taylor thought that it should go together with having rest pauses in relation to the difficulty of the work done. This applied particularly to employees working in steel industries and mines corporations (Taylor introductory notes, Rouchy P.).

It can be concluded that with respect to the contributions of a scientific approach to management and the techniques of time and motion study, standardization, goal setting plus work measurement and feedback, money as a motivator, management's responsibility for training, scientific selection, the shortened work week, and rest pauses, Taylor's views not only were essentially correct but they have been well accepted by management. With respect to the contributions of management labor relations and individualized work, Taylor probably was only partially correct, and he has been only partially accepted (Locke, 1982). More or less all his principles are in use today. This is the case could be that he was first in really studying work in a thorough and scientific way, and what he found out was so useful that we still stick to it. He kept focus on improving productivity in a way that would suit both management and labor, bring it to a win-win situation. The employees are now looked upon as individuals and he focuses on their tasks.

## References

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## **Q. 2 Present (and explain) Sloan’s main elements of administration of the Automotive industry.**

In the following I shall explain what are the Sloan’s main elements of administration of the automotive industry?

### **Sloan’s Elements of Administration**

Like Taylor, Sloan began his work in response to a specific need or problem. He did not evolve his plan in a vacuum; rather it was a pragmatic response to what appeared to be a series of overwhelming challenges. Sloan developed what might be called an “ administrative ideology.” Essentially it was a method of thinking about the administrative process. Sloan’s elements of the administrative process are essentially three which can be explained as under (Dale, 1956: p53&54):

the planning process,

the administrative framework,

and the administrative skills.

## **1. Planning Process:**

This explains the independence pricing policies, its labor policies, public relations policies and dealer relations policies. It explains Sloan's shift of emphasis from preoccupation with financial and technical problems to general administration, human relations, and, above all, sales (for example, the model changes which beat the predominance of the Ford Model T; Sloan is fond of recalling that the automobile industry started as a sports car industry) (Dale, 1956: pp54). In May 1920 Sloan had prepared an elaborate report on the GM organization, embodying a plan for the systematization of management and the introduction of administrative skills. His report was presented to GM board and accepted. He was also made vice president. The Sloan report clearly written document is became a landmark in the history of administrative thought. The fact that the report could have been carried away in the company did not come alone but by the cooperation of high motivated individuals (Dale, 1956). The report stated 3 main lines where administration had to bring their attention (Sloan Presentation Note, Rouchy P.):

A scheme of decentralized organization,

With financial and executives control, and

An approach of business that provides competitive advantage in the automobile market.

Decentralization:

Dale says of Alfred Sloan: “ He was one of the first to recognise that the major obstacle to organization growth is the limited capacity of management, and that as companies increase in size, problems of coordination, communication, and outside representation increase faster than the ability to cope with them. Sloan felt that one-man control was vitiated by the excessive danger of mistakes it entailed; he recognized that no human being can be infallible. He felt that each executive, including the man at the top, must realize that he needs help and that every person in a position to make a contribution, or to obstruct, should be consulted before a decision is made” (Dale, 1956).

In Leighton’s (1970) discussion of what he terms the Third Industrial Revolution, due to the unprecedented “ emergence of corporations of unprecedented size, complexity, breadth and international scope”, he argued that the revolution had been “ primarily a revolution in management”. It is the change in administration techniques that facilitated the growth of corporations, through decentralised organisational structures, with geographically separate divisions and subsidiaries which necessitate new forms of monitoring, “ feedback and control” (Leighton, 1970: pp3&4).

Coordination provided through the operations committee and a general advisory staff was established to help the decentralized divisions with specialized problems. General financial and accounting staff under the chairman of the finance committee. The definite objectives Sloan hoped to attain by the plan included (Dale, 1956: p42&43):

Clearly determining the functions of each division of the corporation. The functions have to be clearly identified not in relation to each other but in relation to the central organization.

Determining the role of the central organization, especially in its role of coordination with the operations of the company.

To central the control of executive in the hand of the CEO.

To limit the number of executive to report to the CEO in order to give him the latitude to design long term policies. It leaves other short term problems the domain of executives (Sloan Presentation Note, Rouchy P.)

Financial Control:

A pioneering organisational structure, what Cochran (1977) refers to as a multi-divisional or "M-Plan", with two major segments: major control and executive control? Major control stemmed from stockholders to directors to finance committee and executive committee. The executive control rested with the president, who acted within the framework of major control. General Managers of operational units received "absolute administrative control" (Cochran, 1977).

Sloan established a finance committee which aim is to formulate financial policies for the corporation as a whole and decide for capital investments by the executive committee. The general financial and accounting staff was under the direction of the chairman of the finance committee. Coordination with the divisions was done through this committee (Sloan Presentation Note, Rouchy P.).

The president has also an appropriation committee that deal with the appropriateness of purchasing, improving property in each division. For technical information and data, the CEO referred to the general advisory staff (Sloan Presentation Note, Rouchy P.).

Business control by the executives:

It is headed by the CEO and includes the representative of the operations. The manager of the operational units has total administrative control of their operation, such as manufacturing, sales, finance, and engineering. Each of the divisions was encourage competing with each other in order to provide solutions in engineering, styling, service to public (Sloan Presentation Note, Rouchy P.).

He established operations committees dealing with the specialized problems of each decentralized divisions. The advisors staff had a role of consultant over purchase, engineering, research, insurance, legal problems, real estate, sales and advertising etc (Sloan Presentation Note, Rouchy P.).

Business Approach in the Automobile Market:

In car business marketing department Sloan had introduced the following business techniques. These concepts, participated within the competition with other car makers (such as Ford), to propel GM to industry sales leadership by the early 1930s. In 1955, it made GM the largest manufacturer in the world (Sloan Presentation Note, Rouchy P.).

Concept of Obsolescence Application:

At the marketing of car level, Sloan established annual styling changes. It is the application of the concept of planned obsolescence which means that the company is planning itself to outmode its own car by providing customers with new shape and updates of their own models (Sloan Presentation Note, Rouchy P.).

#### Introduction of Comprehensive Pricing Structure:

He also established branding of car according to a comprehensive pricing structure. From the lowest to the highest priced, GM could offers 5 different brands of car such as Chevrolet, Pontiac, Oldsmobile, Buick and Cadillac. The pricing system correlated to the branding permitted to sell a large amount of cars which did not compete with each other. The main idea is to keep buyers within the GM “ family” as their buying power and preferences changed during their own life cycles (Sloan Presentation Note, Rouchy P.).

#### Credit System Introduction:

GM brought to the car selling business was the credit system that GM offers to its clients to buy their cars (which Ford refused to provide at the time). In 1926, Americans bought 3 out of 4 cars with credits from GM credit facilities (Sloan Presentation Note, Rouchy P.).

## **2. Administrative Framework:**

This is a most carefully thought-out series of conventions, maintained throughout by an oral tradition. (a) Central management determines short- and long-range plans for the corporation as a whole as well as the scope within which each division operates, considering such factors as long-term



growth, cyclical and seasonal variations, capacity, and competition. While planning takes into account the ideas and suggestions of the divisions, it accedes to them only in so far as they fit into the over-all plans and to that extent central management predetermines activities of the divisions (Dale, 1956: pp55).

(b) Central management fits the divisions into a pattern of operation, set by the over-all plan, allotting to each division its role in the over-all scheme. It sets production goals, based on general economic factors and a minimum quota for each division, decides capital and current expenditure allocation, determines major appointments, salary changes, and bonus allotments, and makes major policy decisions affecting all the divisions (Dale, 1956: pp55).

(c) Staff aid at various levels is provided to help the divisions meet the goals and to measure the results (Dale, 1956: pp55).

(d) Provision is made for integration of viewpoints and for teaching. In the formative days Sloan made frequent visits to the plants, particularly in the car and truck divisions, to contact those on the grounds. General managers of these divisions were called into Detroit once or twice a month for meetings, and often representatives of the specialized staffs sat in. These sessions led to the creation of policy groups to contend with specialized phases of the business, such as sales and distribution, engineering, labor relations, styling. Group meetings took on the characteristics of seminars; Sloan generally sat in, and although he would explain his viewpoint on specific questions as they arose, he encouraged debate, different points of view, and he delayed the final decision until the underlying concept was

accepted by those who must carry out the decision. This kind of procedure was calculated to provide training and elicit contributions to fundamental policy from those down the line (Dale, 1956: pp55).

(e) Division managers handle production and sales distribution in the plants and sales agencies of their divisions; appoint personnel except top executives; determine factory methods and equipment; handle most purchases, dealer contracts and franchises, and certain aspects of advertising and public relations, though their decisions may be subject to review and challenge by central management (Dale, 1956: pp55).

### **3. The Administrative Skills**

The administrative skills originated mostly from the factual observations of Sloan and his associates and were then evolved through what might be called an “ integration of expert advice.” Usually one man would think up the central idea in response to many pressures or as a result of group discussion (Dale, 1956: pp56). In general, the re-planning of the business operation and its relation to the central decision committees demanded a great deal of administrative skills that took the form of (Sloan Presentation Note, Rouchy P.):

Forecasting: The most important purpose of the forecasting function was microeconomic: to keep production schedules in line with changes in ultimate consumer demand. To a lesser extent, it was designed to provide a means of establishing an operating program geared to provide a desirable rate of return on capital, plus income for expansion. Implementing accountancy practices for dealers, the use of forecast based on

macroeconomic data of growth (population, wealth, income) (Dale, 1956: pp45).

Policy Making: The forecasting was used to decide policies and notably to determine line of products in relation to consumer's purchase power. The company policy was optimum return on investment by stating the standard price, volume of car produced and the rate of capacity of operation with operation and the allowance of certain flexibility for new inputs (Sloan Presentation Note, Rouchy P.).

Relationship: Dale discussed that Sloan stressed personal contact with employees, and especially focused on dealer relationships. With Executives, Sloan stressed corporate objectives and professional performance rather than personal loyalty and made partners out of principal associates. A bonus plan was also introduced, which Dale argued still ranked among the best designed at the time of his paper in 1956. Good performers were rewarded and this helped stop poaching from others (Dale, 1956). Human factors were little known in the corporation of the time. Sloan realizes the importance of human relationship in the car business. He took great care to accumulate information from the experience of his selling force and established customer survey. He also established relation with his executives to share objectives and professional performances (rather than blind loyalty and the interplay of corridor politics). He encourages their participation in policy making. He inaugurated a bonus plan in 1919 rewarding individual contribution to the overall success of the corporation (Sloan Presentation Note, Rouchy P.).

Dale (1956) argued that Taylor's theories never worked at management levels whilst Sloan's administrative ideology and scientific theory were applicable to top management, and thus " Sloan, rather than Taylor, was a pioneer of scientific management" (Dale 1956).