Traditional and Innovative Management Practices: Ford and Toyota

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Introduction

The practice of management is important for every organisation, no doubt about that. However, what management strategy to be utilised is an issue every company or manager has some difficulty in answering. With a number of management strategies already being developed, from the traditional models to modern and innovative methods, a manager cannot simply pick one and apply to his organisation. It entails more than just selecting what one thinks is right. Peter Drucker (1954) pointed out that,

The responsibility of management in our society is decisive not only for the enterprise itself but for management's public standing, its success and status, for the very future of our economic and social system and the survival of the enterprise as an autonomous institution (p. 383).

Thus, managing an organisation and selecting the appropriate management method really needs careful planning.

For several decades now, the debate on which management approach is better between the scientific management model developed by Frederick Winslow Taylor and the total quality management introduced by William Edwards Deming continues to persist in the academic and professional management circles. This debate has been the subject of many discussions and literatures on management principles, strategies and planning. Proponents of the traditional management style of Taylor’s model, the most prominent of which is the Taylor Society, say that scientific management is a comprehensive and rational approach to all the functions and process of within an organisation (Thompson, ed. & Taylor 2003). On the other hand, TQM proponents say
quality management can lead to increased profits and greater job security (Nersesian 2000).

The debates have persisted until today and will continue in the years to come. In the management practice, these two models have been the dominant management styles adopted by most companies, although recently more and more companies are turning to TQM. The best examples of organisations that separately apply the models into their management practices are Ford Motor Company and Toyota Motor Corporation. Ford can be considered as a pioneer of the scientific management model, while Toyota is the initiator of the TQM approach. Hence in this paper, these two organisation’s contrasting management practices will be examined.

The two models’ applications on the two leading automobile manufacturers can be the best models to show the effectiveness and the defects of the two management approaches. Since the conception of the contrasting management styles, these two organisations have been practicing it. Hence in this paper, the features of these models and their applications to Ford and Toyota will be analysed.

Evaluation of the Traditional Management Style and the Innovative Approach

As stated above, the two prevailing management techniques today are the scientific management system and the total quality management approach. The scientific management is the traditional management method. Currently, only few companies are practicing this method compared with TQM. The most popular company that utilises scientific management is Ford Motors Company. The total quality management system, meanwhile, is an innovative management style due to its flexibility to the current conditions and its timeliness. The TQM is currently the most widespread
management method, at least in the large companies of today, and the most successful company that use this model is the Toyota Motors Corporation.

The Traditional Scientific Management Style

Scientific management was developed and introduced by Frederick Winslow Taylor. Through his book, *The Principles of Scientific Management*, Taylor outlined the basic principles of scientific management. Taylor (1917) said, “The principal object of management should be to secure the maximum prosperity of the employer, coupled with the maximum prosperity for each employee.” This guiding principle serves as the basis for scientific management.

In the scientific management method, the management has a definitive role in the success of the organisation. In fact, Taylor places new duties and responsibilities for the managers of the organisation to perform, namely to develop a science for each man’s work, scientifically select, train, teach and develop the worker, co-operate with the employees to ensure that works are done according to guidelines and an almost equal division of work between the managers and the workers (Taylor 1917, p. 36-37). These tasks were all heavy, physical tasks and leave the impression that scientific management is suited only for physical work (Freeman 1996). However, Freeman (1996) said the principles of scientific management are just as applicable to knowledge work as they are with physical work.

Under the scientific management approach, task management is also placed upon the managers, whereby they plan beforehand, at least one day ahead, the work to be assigned to every worker (Taylor 1917, p. 39). The manager must specifically plan and describe every detail of the work to be assigned to an employee. In return, the
employee will receive benefits for finishing his/her tasks on time and without or minimal defects. Taylor further explained:

The task is always so regulated that the man who is well suited to his job will thrive while working at this rate during a long term of years and grow happier and more prosperous, instead of being overworked. Scientific management consists very largely in preparing for and carrying out these tasks (p. 39).

Thus making the manager the controller of the work for the day and giving him the responsibility to choose the appropriate worker for a specific job.

Another unique feature of the scientific management model is the introduction of the stopwatch into the workplace. The stopwatch served as a basis for measuring the effectiveness of the worker and the capacity of the organisation. Taylor said that a scientific approach on the management of operations and the assigning of tasks to the employees can yield higher outputs for the company. By training the employee to work on a scientific method, that is using a timer to provide the employee some rests in between the performance of his/her tasks and giving a quota that needs to be met in a workday, would increase the worker’s capacity and output. Thus, this would result into mass production of commodities.

The author also noted the relevance of having a separate inspector or group of inspectors to check the quality of work performed by the workers. These inspectors will examine all the work done, i.e., the products made or services provided, to see if it meets consumer requirements. Taylor explained, “In most cases, however, there exist certain imperfections in working conditions which can at once be improved with benefit to all concerned” (p. 86). He then suggests that another group of employees should
inspect the outcome of the work performed in order to separate and remove the
defective items. These items should not be sold.

Thus, the organisation of production inside the workplace or factory is divided
into clusters or groups, “where one worker attaches nuts to bolts and the next worker
tightens them” (Nersesian 2000). This scheme also encouraged the worker to work
harder to earn a decent wage for the day, hence forcing the worker to increase his/her
capacity to meet the quota.

Whilst this management system has been applauded by some managers, some
critics say the scientific management approach, particularly the separate hiring of quality
inspectors, do not serve the company well. Besides being cost-inefficient due to the
creation of a “factory within the factory,” the quandary in quality by inspection is the
absence of feedback (Nersesian 2000). The dilemma is that within a factory, there is
another group of persons that do nothing but correct the defects made by others without
telling the original producers on the causes of the defects or the reason why the
products are to be thrown away. Hence more resources are wasted due to this activity.

Another criticism on scientific management is its highly bureaucratic
organisational structure. Stephen Waring (1991) noted that bureaucracy helped create
new problems that were particularly evident in worker’s reactions toward the
management. The workers complained over their restricted autonomy inside the
workplace and the accelerated pace of work. Union strikes and demand for higher
wages resulted in the worker’s discontent over their management’s highly bureaucratic
form of organisational management.
Thus, the efficiency and effectiveness of scientific management has been questioned. And other companies, particularly in Japan, started to find new management methods that would help their organisations maximise revenues, increase the quality of products and yield higher profits. The introduction of total quality management then came into place.

The Total Quality Management Model

Total quality management is developed by an engineer and statistician Dr. William Edwards Deming after the World War II. The statistician was credited for the rapid growth of Japanese companies after the war upon his introduction of the total quality management approach. Deming (1986) listed the basic principles of the total quality management system in 14 points, which are:

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and stay in business, and to provide jobs.
2. Adopt the new philosophy.
3. Cease dependence on inspection to achieve quality, build quality into the product itself instead.
4. Choose a quality supplier for a long-term relationship than low-cost suppliers for short period contracts.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease cost.
6. Institute training on the job.
7. Substitute leadership over supervision.
8. Remove fear in the workplace.

10. Eliminate slogans, exhortations, and targets as these would create adversarial relationships within the organisation.

11. Eliminate management by numbers. Substitute leadership and workmanship.

12. Remove barriers to worker and management satisfaction such as annual performance appraisals.

13. Institute a vigorous program of education and self-improvement.

14. Put everyone in the company to work to accomplish the transformation. The transformation is everyone’s work.

Deming pointed out that quality should begin from the start, from the moment the worker starts his/her work. He said making quality products right from the start could result into increased profits and more stable jobs for the workers. Nersesian (2000) pointed out that, “A better-quality product will result in more satisfied customers, more repeat business, and greater market share” (p. 22). Thus more repeat customers mean greater income, and greater profitability for the company also means a more secured and stable job for the employees.

Under the total quality management system, management of an organisation is principles based instead of a technical or mechanical application of the management strategies. In Tata, Prasad & Thorn (1999), TQM is defined as “an integrative management concept for continuously improving the quality of goods and services delivered through the participation of all levels and functions of the organization” (par. 11). Total quality management puts emphasis on the creation of a high quality product
right from the start of the production process, thereby eliminating the need for quality inspectors.

The effectiveness of the total quality management approach was first tested in Japan, particularly by Toyota, and its success led to its adoption by an increasing number of companies worldwide and in the United States. The TQM approach even became a sort of a social movement in the US (Hackman & Wageman 1995). Today, nearly every major corporation in the US and in other parts of the world use the TQM approach as their management model. Toyota and GE were only a few of the prestigious and successful organisations that utilise total quality management.

Among the advantages attributed from TQM is that it yields better-quality products and as a result more satisfied customers. This in turn translates into higher profits for the company and the benefit of a stable job for the workers. Although the adoption of TQM entails at first some costs on the part of the organisation, the long-term returns would be many times greater.

Through a total quality management approach, organisations can also become more productive as the workers are highly motivated to work. The problems of bureaucratism, restrictive autonomies and technical or mechanical application of strategies (management by numbers) is eliminated or greatly reduced and replaced with a dynamic working environment and a more open-ended communication between the management and staff. Thus, the organisations that adopted the TQM model have experience significant growth in the past few years. Taking the example of Toyota, the Japanese automobile manufacturer now surpasses Ford in terms of production, sales
and profit. Currently, Toyota is now the largest auto manufacturer in the world and is known to be a producer of high quality vehicles.

The Ford and Toyota Management Methods

Among the companies today, two of the most distinct companies that apply the very contrasting methods of scientific management and total quality management are the Ford Motor Company and Toyota. These two companies are rivals in the same industry, and utilise two distinct management models as well. As stated earlier, Ford uses the scientific management scheme, whilst on the other hand, Toyota practices total quality management. This contrasting management style applied by two rival companies is an interesting matter to examine.

Ford’s Mass-Production System

Henry Ford, founder of Ford Motor Company, pioneered the application of a mass-production system using the scientific management method developed by Taylor. During the early years of the establishment of the company, Ford has already practiced a system of mass production in order to maximise profit and increase revenues by producing large volumes of cars that can be sold at low prices. The application of this system has gained the company respect and gave it an advantage over its rivals. The system was based on the principle of the assembly line that is continuously operating without disruptions from labour or supply of materials, parts and components (Studer-Noguez 2002).

The production necessitates that work shifts will be divided for the whole day between the workers so that production will be continuous. This system also requires a highly structuralised organisation. The system also gives more power to the manager on
deciding the work shifts of every worker, which is a characteristic of the scientific management approach. This procedure necessitates that the workers should be highly skilled so that they can meet a certain quota of produced vehicles.

In order to effectively manage the production schedules, certain techniques were formulated. The first technique was the utilisation of large-scale highly accurate machines and equipment (Studer-Noguez 2002). The scientific approach was used in this manner as the company was able to perfect the production of “interchangeable” or standardised parts, which could be assembled by merely attaching each part to the other to create the vehicle. The next technique was the specialisation of labour and the separation of the skilled and unskilled tasks (Studer-Noguez 2002). Included in the system was the introduction of the “open-shop floor” wherein the workers were treated as parts of the production process. The workers were assigned to different aspects of the production and were trained to be highly skilled in the segment of the production process where they are assigned. The third step was the creation of an organisational structure that fits in the production system. To compensate the workers, high wages and benefits were offered to them by the company.

Thus the company was able to produce more cars using the above method. The principles of scientific management are applied in the sense that the highly bureaucratic organisational structure allows the managers to take control over the work loads of the workers and their capacity to produce more cars.

The management exercised full control over the procedure of production. This means that every aspect of the production process must be decided by the manager or must be reported to him/her. No steps will be undertaken without the manager’s
consent. This has been one of the criticisms thrown against scientific management. The scientific management approach separated the planning from doing; managers plan, workers do (Nersesian 2000). The workers were relegated to a position that they have no power over the production process. All the workers will do is to follow directions from the managers without the benefit of or having limited discussions with the managers over the production process.

The Ford management's strategy on production line also includes the creation of a quality control department that will check the products for manufacturing defects. Hence, as discussed above, a “factory” within Ford’s factories was invisibly established. This entails greater costs to the company. After assembling the cars, the quality inspectors will check each car for any defective component or portion.

This operations management based on the scientific management model has been practiced by Ford since the early 1900s. Whilst there are innovations in the production or operations management of the company, these innovations however did not deviate significantly from the scientific management model. Thus, in recent years, a number of product recalls have been made by the company due to defective vehicles that reached its consumers.

The Toyota Total Quality Management Scheme

On the part of Toyota Motors Corporation, the company has gained success since its adoption of the total quality management model. Faced with deep economic problems after World War II and failing consumer satisfaction ratings, the Japanese company adopted the Deming model of management strategy (Nersesian 2000).
The company went into rigorous organisational transformation from the scientific management approach to the total quality management system espoused by Deming. Toyota formulated the lean manufacturing system to optimise production and eliminate waste (Goland, Hall & Clifford 1998). This system integrates quality right into the manufacturing system. Lean manufacturing has four essential characteristics, namely Waste awareness, continuous quality assurance, just in time and level production (Goland, Hall & Clifford 1998).

Waste awareness aims to eradicate overproduction, unnecessary motion, repairs, over-processing, waiting, excessive inventory and unnecessary transportation (Goland, Hall & Clifford 1998). The continuous quality assurance aspect puts emphasis on quality at every step of the manufacturing process to eliminate the necessity of quality inspectors and become more cost-efficient. The workers on the frontline are empowered to stop production if they see that substandard products are put or substandard measures are undertaken. Hence, total quality products are produced.

Just in time principle, meanwhile, aims to finish products and deliver them to dealers or consumers without delay. It also assures that the right materials are supplied where they are needed and when they are required (Goland, Hall & Clifford 1998). Level production is the end-state of the production process under a lean manufacturing system. The levels of peaks and troughs in production are minimised so that capacity utilisation is optimised and the overall cycle time is kept to a minimum (Goland, Hall & Clifford 1998).

Due to the lean manufacturing system, Toyota is able to produce high quality vehicles without needing for quality inspectors to check the products before delivery to
the market. Thus the company was able to eliminate unnecessary expenses while producing cars that satisfy the requirements of its consumers. At the same time, the company satisfies its workers as well. Through this method, the company slowly gained prominence in the automobile industry and is now the leading automobile manufacturer in the world.

Conclusion

Based on the above discussion, it can be inferred that both the scientific management approach and the total quality management method aim for quality in the operational procedure and management of an organisation. The scientific management system developed by Taylor aims to create a systematic and scientific procedure in the operations and delivery of products and services, while maximising profit and considering employee wages. As exemplified by Ford, the establishment of a mass-production character of operations and giving a high wages to workers show the objective of the scientific management approach to give benefit both to the employee and employer.

The same objective can be ascertained from the total quality management technique. Ensuring total quality in the manufacturing process while limiting operational costs and giving consideration to employee conditions can be observed from the operations management of Toyota. Along with this aim is the objective of the company to optimise profit and revenues whilst increasing productivity and capacity.

The above similarities between the two management methods are an example of how business management, in general, aims to raise an organisation’s standing in the industry and become competitive. However, along with these similarities are the more
glaring contrasting characteristics between the scientific management and total quality management models.

The most visible dissimilarity is the approach on the procedural aspect of management. Scientific management is highly bureaucratic in structure and thus provides a rigid working environment both for the employees and managers. On the other hand, the total quality management as espoused by Deming calls for a more relaxed environment in the workplace. As stated earlier, the application of scientific management is highly technical (management by numbers), whilst the total quality management is principle-based. These differences are what makes the two management strategies incompatible and cannot be applied together in one organisation. In such instance, the managers of an organisation must choose only one of these management methods to apply to their organisations.

Nevertheless, both management strategies can be effective if applied correctly. The scientific management model of today has already been updated (Freeman 1996), and as such organisation who chose to follow this method must be able to update themselves. Meanwhile, the total quality management method has been the more popular technique nowadays and has often been proclaimed as the cure-all for organisationally or industrially weak companies (Tata, Prasad & Thorn 1999). However, it is not the solution to all the dilemma of an organisation. In order for it to be effective, TQM must be aligned with the organisation’s philosophy and culture (Tata, Prasad & Thorn 1999). Thus organisation should follow these management methods by heart and must integrate it with their organisational principles, values and culture.
References


Freeman, M. 1996, ‘Scientific Management: 100 Years Old; Poised for the Next Century’, *SAM Advanced Management Journal*, vol. 61, no. 2. p. 35+.


