



Evolution of Management Theory within 20 Century: A Systemic Overview of Paradigm Shifts in Management

Sasan Torabzadeh Khorasani^{1*}, Maryam Almasifard²

¹Texas Tech University, United States, ²Texas Tech University, United States. *Email: sasan.torabzadeh@gmail.com

ABSTRACT

Significant progress in civilization of human being has been made over 20 century. Advance technology; globalization and revolution of communication are the main outcomes of this development. However, it is obvious that these achievements have been significantly influenced by evolution of management theories. The paradigm shift from classical management to modern management can be clustered into several phases. This paper presents an overview of evolution of management theory within 20 century, and provides an analogy of the notion of Kuhn's scientific paradigm in terms of management theory evolution. Moreover, the intersections of management with other sciences or Medici effect that have been occurred in this area (Johansson, 2004) will be discussed in this article.

Keywords: Management Theory, Paradigm Shift, Kuhn, Medici effect

JEL Classification: B15

1. INTRODUCTION

Since late 19th century, management has been shifted to different paradigms.

For better understanding those changes in management philosophy, I introduce the paradigm definition according to Thomas Kuhn's paradigm explanation.

A paradigm defines the global view of a scientific community (Lauden, 1977; Suppe, 1974). Paradigm is the main concept of Kuhnian argument. Paradigm shift is done by leaders, which causes innovation and create new eras. The paradigm consists numbers of specific rules and beliefs of the community (Kuhn, 1970). Kuhn believes that each scientist's decision to follow a new paradigm must be created on future promise faith (Kuhn 1970. p. 158). In addition, he said that science develops through paradigm shifts, but we cannot be sure that it progresses toward anything (Kuhn 1970. p. 170).

Evolution of management science can be clustered into 5 main paradigm shifts. Main clustering's criteria is based on paradigm definition of Thomas Kuhn. In this case, each theory

has determined new specific laws and created new believes in management science within 20 century. On the other hand, they have significant influences in organization science. It means that each of these theories represents a paradigm shift. I also introduce the pioneers of each paradigm in this paper.

The five main paradigm shifts of management theory is shown in Figure 1.

Early management theories involve number of attempts at finding possible ways to improve industrial life at the end of the 19th century:

- Scientific management
- Administrative management theory
- Behavioral management science.

Scientific management (1910s): Described management as a science with workers having specific but different responsibilities. Scientific management is the first remarkable paradigm shift in early 20 century. The pioneer of this shift was Taylor. He published the book, principle of management science in 1909. In this book, he described how he formalized the principles of scientific management and how new paradigm was established.

Figure 1: Evolution of management theory within 20 century

Moreover, the fact-finding approach put forward and largely adopted. It was a replacement for what had been the old rule of thumb (Tunstall, 1992).

Taylor stated that increasing specialization and division of worker reduce the time which worker expends to produce a unit of production. Consequently, the efficiency of production process will be improved.

Taylor's principles:

1. Workers performance study, job knowledge collection, and find out improvement ways of doing task.
2. The performing task methods codification into standard procedures.
3. Worker allocation based on their skills and abilities and held training for enable them to perform better.
4. Define a level of acceptance for each task, and set a payment system with reward for the performance above acceptable level.

Taylor's introduction of scientific management caused paradigm shift from the division of labor and the significant of machinery to facilitate labor. Taylor said management should see labors having different skills and tasks; provoke the scientific choices, training, and labor's development and the same division of job between labors and management. That is a complete mental change on the part of the workers' section and an equally complete revolution on the management's side. In other words, scientific management requires complete revolution on both sides (Ratnayake, 2009).

Taylor's paradigm is known as one of the first systematically study of human behavior at work which consists breaking down each task to its smallest unit as possible and to find out the best way to do each task. A paradigm moves a group into a profession or, at least, a discipline (Kuhn, 1970. p. 19).

2. LIMITATIONS OF SCIENTIFIC MANAGEMENT THEORY

Workers and unions began to oppose his approach because they feared that working harder or faster would exhaust whatever work was available causing layoffs (Ratnayake, 2009).

2.1. Administrative Management Theory

In almost same time that Taylor published his scientific management, Fayol and Weber were attempting to describe a new

management theory's paradigm, which is known as administrative management theory. Administrative management based on how an organization must be structured and it emphasizes on effective management.

2.2. Fayol Perspective

In spite of his background in engineering, he understood the managerial skills. He found out that management is more than increasing throughput methodology and devising the system.

He began to develop his managerial idea as he works as general manager (Waren, 1995). Then, he defined his management theory as a collection of principles, rules, methods, and procedures (Fayol, 2013).

2.3. Fayol Management's Principle

1. Division of work, 2. Authority, 3. Discipline, 4. Unity of command, 5. Interrelation between individual interests and organizational objectives, 6. Unity of direction Remuneration, 8. Centralization, 9. Scalar chains, 10. Order, 11. Equity, 12. Job guarantee, 13. Initiatives, 14. Team-spirit (Waren and Bedian, 2009).

Beside Fayol, bureaucracy theory of max weber is another major work of administrative management theory. Weber's bureaucracy theory is identified by hierarchical organization, describe authority in a specific area of activity, action on the basis of rules, training for bureaucratic official experts, rules are applied by neutral officials (Allan, 2005).

Administrative management is considered as a paradigm because it introduced new approach of management and present disciplinary rules for organization. In other words, it reveals hierarchy and bureaucratic structure for organization.

2.4. Behavioral Management Theory

One decade before Second World War, pioneers like Mary Parker Follet developed humanistic perspective of management. Mary Parker Follet emphasized on interactions of management and labor. She defined management, as doing tasks through people. Direct communication should take place between all managers from different department Follet stressed on labor participation in work development process. She is also well known as mother of conflict resolution. She believed in knowledge-based authority. After Follet behavioral theory progressed by Hawthorn, Maslow and McGregor between 1940 to 1970. The main cores of Humanistic perspective are: Human relations movement, human resources perspectives, and behavioral sciences approach.

Behavioral management theory is an intersection between management theory and behavioral science. It highlights the importance of workers' motivation as a main goal of organization. It discussed about how psychology is important in organization study. This intersection results a new paradigm in management science in mid 20. Maslow's hierarchy of needs and McGregor's Theory X/Y are classified as 2 outcomes of humanistic approach of management.

Figure 2: Bureaucracy theory of management. Retrieved (2014) from <http://www.slideshare.net/bsetm/chapter-2-the-evolution-of-management-theory>

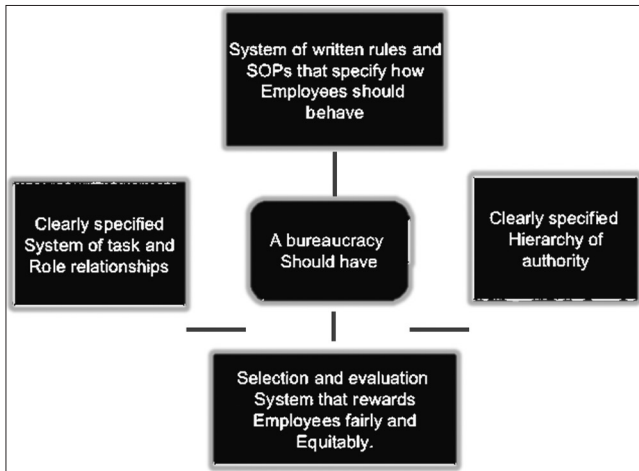


Figure 3: Maslow hierarchy of needs chart. Maslow, A. H. Theory of human motivation. *Journal of Psychological Review*, 50, 370-396



2.5. Management Science Theory

Management science theory was developed after Second World War. Using mathematics, statistic and quantitative techniques are main characters of this theory.

Operation research, quality control, inventory management, and information technology are emerged as major fields in terms of management. Father of quality management, Edward Deming, introduced the most remarkable philosophy of management science. Quality was known as the most important key success factor till 1990s. Edward Deming used statistical tools for quality control.

The main key factors of quality management are: Customer satisfaction, employee engagement and continuous improvement.

Undoubtedly, Deming is a pioneer of quality management and statistical application in management. He introduced a new management paradigm, which led the huge development in quality management.

2.6. Organization Environment Theory

Organizational environment study began in 1960s (Kahn and Katz, 1966). Early works on open system's nature of

organization have influenced in further research (Davis and Powel, 1992).

This theory describes that environment consists forces, conditions and influences from outside of organization. Environment has an enormous impact on manager's ability to use resources.

Even though some researcher have been studied organizational death (Aldrich and Marsden, 1988).

According to this theory 2 system are defined: The open-system and closed system.

Open-systems view: External resources used for producing goods and serviced are defined as inputs of system. Process of transforming the external resources to finish goods or services is called conversion. Finish goods or services are provided to external environmental are the Output of system.

Closed system: A system is not affected by external environment and loses its ability to control itself.

Organizational-environmental theory revealed numbers of interdisciplinary research in terms of management. Relationship between organization study and ecology, demography sustainability and other environmental science provides new rules and beliefs in management science. Nowadays, sustainability and ecological aspect of production is one of the big global concerns.

3. CONCLUSION

As it can be clearly seen that 20 century is faced to five main turning points in management sciences. These theories were emerged by pioneers who could understand the needs of industries and customers, problems and potential solutions. According to Thomas Kuhn definition, each paradigm defines new set of rules and creates new beliefs. By reviewing all five main major management's paradigms, we can easily figure out the rules and beliefs that created each theory has created, and we can see their impact on work environment, quality of production and sociocultural changes. Two first theories were introduced in the second decade of 20 century. Taylor presented scientific management, which emphasized on experimental methodology in management. Moreover, he focused on training of workers. His objective was faster work. At the same time, administrative theory emerged by Fayol and Weber. 14 principles of Fayol and bureaucracy theory of Weber that is shown in Figure 2 are two first organization approach of management. Their works have significant impact on hierarchical and disciplinary structure of organization. One decade later, behavioral management theory was born. Mary parker Follet was disagreeing with Taylor philosophy. She believed that motivation of workers plays an important role in management. She was against to pushing workers to perform faster. She said that pushing workers may causes of dissatisfaction. Humanistic approach of management has been developed since 1940. Intersection between management and behavioral science led the first Medici effect took place in this paradigm shift (Johansson, 2004). The well-known theories like theory X and Y

and Maslow's hierarchy of needs, which is shown in Figure 3 are clustered in humanistic category. Management science theory that represents the intersection between management and mathematics science led a huge revolution in quality management. Deming principles and Toyota lean thinking philosophy (Liker, 2004), and developing knowledge management are the main outcomes of this paradigm. On the other hand, Medici effect occurs here because intersection between western management and Japanese system took place. Organization-environment theory is new trend in management. It is the result of intersection between organization knowledge and environment science. Research on this theory covers wide areas. Relationship between management and science such as sustainability, ecology, and human health has been studied since 1960.

According to what we can see over 100 years of management evolution, we can conclude that five main theories have been shifting management paradigms into another one. The first 2 theories are known as classical management. And the next 3 theories are the result of the intersections between management and other science disciplines.

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