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# Organization Theories: From Classical to Modern

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**Abstract:** Since the end of the last century, complex organizations have become the considerable popular objects of study in the field of organization theories. The purpose of this paper is to present the process of the evolution of organization theories and trying to dig its sequence and trend. There are three stages in the development of organization theories, including classical, neoclassical and modern. The application of complexity theory to organization science offers new models and new directions, the evolution of organization theories in the future will continue under the complexity paradigm.

**Key words:** Organization theories, classical, modern, complex

## INTRODUCTION

Today, as the organizational environments have become more and more complexity, organizations appear to be flat-structure, class-stratified, network relationship, flexible and fuzzy boundary. The evolution of organization theories summarized from practice depends on the evolution of organization practices (Taylor, 1911). With the expansion of the productive forces, the development of organization theories experience three stages, i.e. classical, neoclassical and modern stage. At different stages, the views and methods of organizational research have been changed. With the introduction of complexity science, the research paradigm shifted, new methods and new directions are applied to the research of modern organizationtheories.

## FOUNDATION DEFINITIONS OF ORGANIZATIONS AND ORGANIZATION THEORIES

**Organizations:** Organizations are universal phenomena in human social and were defined by March and Simon (1958) as systems of coordinated action among individuals who differ in the dimensions of interests, preferences and knowledge. Who holding the same view included Arrow (1974), Mintzberg (1979), etc.. Organizations exist when people interact with one another to perform essential (Daft, 2007), they are social units of people with recognizable boundary to meet certain goals (Robbins, 1990). Organizations are the unities composed of mental activities of member with same goals and technologies and operate in the certain relationship mode (Liu, 2007).

On rational, natural and open system perspectives, there are different emphases in different definitions of organizations.The rational perspective equates an organization with tool, which is designed to meet the certain goals; the natural perspective emphasizes an organization is a group; and the open system perspective regards an organization as a self-regulation system and an open system, exchanging with its external environment.

**Organization theories:** Organization theories originate from organizational practices and in turn serve practices. Nicholson defines them as a series of academic viewpoints which attempt to explain the multiplicities of organizational structure and operating process (Nicholson, 1995). For another words, organization theories are knowledge systems which study and explain organizational structure, function and operation and organizational group behavior and individual behavior (Zhu, 1999).

As shown in the Fig. 1, philosophy, methodology, theory and application construct four hierarchies of the integrate organization science (Liu and Zhang, 2004). Under the direction of methodology, organization theory is the third hierarchy, guiding management theory, management method and management technique through management practices.

## CLASSICAL ORGANIZATION THEORIES

In the early twentieth century, classical organization theories emerge with the vigorous development of industry. Taylor, Fayol and Webb established the building and the development skeleton of classical

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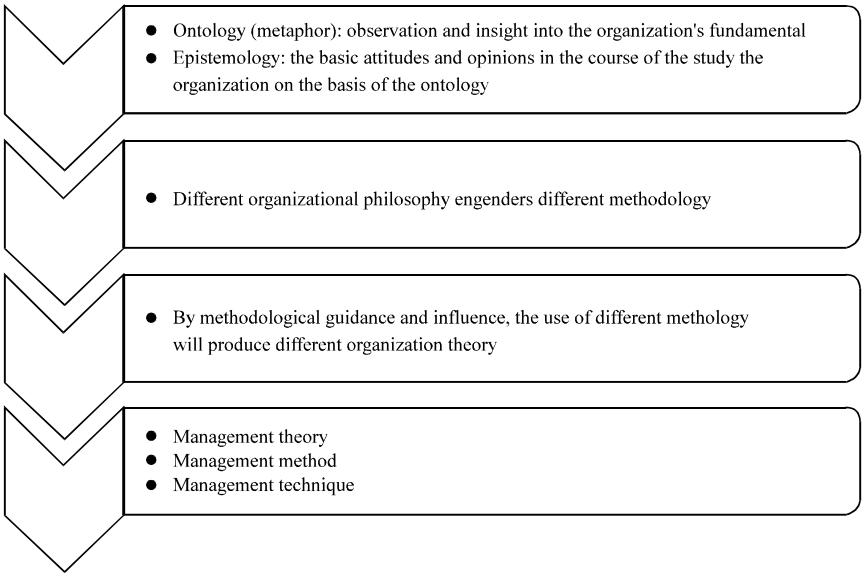


Fig. 1: Fourhierarchies of integrate organization science

organization theory, by defining respectively research objects: individual efficiency, enterprise organizational efficiency and social organizational efficiency (Guo, 2003).

Taylor, 1911 encouraged the bottom-up rational administrant methods, which could affect working relationship by changing the way to carry individual tasks out and hoped to replace the arbitrary managers with scientific and rational procedures. In contrast, although Fayol's administration theory was in the same period, but he adopted the top-bottom rational administrant methods. What is more, Weber owned the same time background with Taylor and Fayol, but he regarded authorities as the core concept of administrative systems. After studied on traditional authority, legal authority and charismatic authority, Weber considered the legal one could keep the enduring bureaucratic structure, which is better at dealing complex affairs than the traditional ones, because its structure has the pure technology superiority than the other forms (Weber, 1964).

For classical organization theories, because of organizational structure is regarded as the basic media to attain the bounded rationality, the core objective of the study is the rationalization of organizational structure. Classical organization theories emphasize the organizational characteristics are impersonal and rational and focus on the design of organizational structure, the basic principle and the basic administration function of organizations (Liu, 2010). The classical organization theories are the typical philosophy on human-machine-relationship perspective, basing on economic-man hypothesis. In this period, the metaphors of an organization and individuals are 'machines' and 'gears'/'screws'. People lost their humanity in society, into a machine and lost initiative in the work (Luo, 2009).

## NEOCLASSICAL ORGANIZATION THEORIES

With the development of productivity and the improvement of employee educational level, the overly strict regulations and mechanical organization models advocated by classical organization theories have caused thus results: the internal communications are liable to be misinterpreted and the internal conflicts become more and more frequent. All these ask for the new administrative theories, which would pay more attention to the human factor and encourage the humanize management. To meet these demands, Elton Mayo (1933) finished the famous Hawthorne experiments and proved that a social group is one of the basic forces which could decide the organizational operation. At the same time, the important role of the informal organization on the organizational infrastructure was proved by Hawthorne experimental results (Scott and Davis, 2006). New research fields are inspired, organizational scholars paid more attention to the human factor and the humanize management. The major achievements, except for Mayo's Human Relations Theory, include Maslow's Hierarchy of Needs (1943), Herzberg's Motivator-Hygiene Theory (1959, 1966, 1968), Mcgregor's Theory X and Theory Y (1970, 1974).

To discover human nature, psychology, sociology and other disciplines knowledge were integrated into the research field during the developmental times of

neoclassical organization theories. For the reason of there are still plenty of drawback for classical organization theories, which are based on human-machine-relationship perspective, i.e. the limiting the freedom of staffs and stifling their creativities in the work, neoclassical organization theories compensate for above deficiencies. The theories basing on human-human-relationship perspective substitute the mechanical, static, structural and physiological researches for humanized, dynamic, functional, psychological researches (Liu, 2007).

## MODERN ORGANIZATION THEORIES

In the mid-twentieth century, the third technical revolution stimulated the speedily progress of economics, it brought lots of new economic phenomena and influenced organizational environments deeply. The knowledge of classical and neoclassical organization theories cannot explain such organizational changes in such dynamic circumstances, it called for the transformation of theories and brought organization theories into a new developmental phase. On the human-environment-relationship perspective, modern organization theories treat organizations as open systems, emphasize the influence from their environments and borrow new views and new methods from complexity science, the research paradigm shift to complexity one.

**Organizations and environments:** Organizational environment means all factors or forces which would potential impact on the organizational operation or performance. There are two kind definitions of organizational environment, including broad sense and narrow sense. The broad sense means the big environment including outside and inside the organizational boundary. For example, Duncan (1972) directly divides organizational environment into two parts: external environment and internal environment. From narrow sense, organizational environment just means the environment outside the organizational boundaries, or the combinations of all objects of an organization.

For a specific organization, its external environment can be divided into specific environment and general environment. The specific environment directly influences the decision and actionof manager and is straight relevant to the achievement of organizational goals. So it is named as task environment. Organizational task environment includes four factors: customers, suppliers, competitors and pressure groups (e.g. the apparatus of government and the group of special interests). The impact of the general environment on organizations is not usually directly and often is treated as factors into consideration taken into management decision-making. Usually, the general environment includes six factors: economic conditions, political / legal conditions, social and cultural conditions, demographic conditions, technical conditions and global conditions (Robbins, 1990).

Based on the reason of above, the scholars pay more attentions to organizational environment. The emergence and improvement of contingency theory have pushed the modern organization theories into mainstream. Contingency theory is a branch of the system-design ideas and it emphasizes that organizational design is governed by their environmental conditions and the result of exchange between organizations and their environments (Scott and Davis, 2006). Lawrence and Lorsch (1967) discussed that an organization is a subsystem of the social open systems, affected by factors in the environment. For these reasons, an organization would be studied in the particular environment but not isolated. The open-system perspective and the focus on the environments have leaded the study into the era on human-environment-relationship perspective.

There are two dimensions and three elements which organizational environments consisted of. The dimensions are institutional environment and technical environment; the elements are control, standard and cultural-cognitive (Scott and Davis, 2006). In order to analyze the effect of the environments on organizations, organizational research is divided into three layers by Scott and Davis (2006): organizational set, organizational groups and organizational field. Firstly, organizational environment is observed on organizational set sub-layer; then, the group's behavior, competition strategy and environmental choice function are analyzed on organizational group layer; at last, the research subjects on organizational filed sub-layer improve organizations associate with each other and sharing the same technology, standard order, law and institutional system (Aldrich, 2007).

It is shown that organizations and their environments are correlative dependence and interplay: Scott (2003) proved that environmental impact on organizational structure through ‘the relationship between organizations and environments: interdependent cycle’ model. The organizational structure is the common result of organizational operation and environmental response. Between organizations and their institutional environments, the latter limit organizational behaviors. At the same time, organizations tend to use the chances of institutions to improve their performance.

**Organizations and complexity science:** The complexity science has become a broad-ranging subject after it reveals. For the reasons of the pressure from managers for new methods and the passion with which management consultants put untested organization science ideas into instant practice, management practice is especially susceptible to fads; at the same time, the complexity theories are being applied in physics and life science which can be seen as the organizational environment, all the above improves the applications of complexity science into organization theories (McKelvey, 1999).

**Complex system:** The study of the organizational complexity is often associated with the study of complex system. The definition of the complexity system is not strict and unified. After summarized current seven kinds of definitions, Xingtang *et al.* (2008) defines it as a big system consisted of lots intelligent and self-adaptive agents, without the central control inside it but a lot of complexities which lead to huge changes and determine complex interactions between the system and environments. A complex system can show the whole behaviors or characteristics which cannot show on part, that is emergence.

The typical paradigms of complex system theory could be summarized as follows (Morel and Ramanujam, 1999):

- The complex adaptive systems (CAS). Holland (1996) studied on complex systems basing on adaptation of the systems. The new research field was named by Santa Fe Institute (SFI) as 'complex adaptive systems' (CAS). CAS are described as systems consisted of interactional agents which behaviors could be dictated by the schema. Each agent could adapt to its environments by striving to increase a payoff or fitness function over time, this is the main reason for CAS to be dynamical systems. CAS are seen as a truly new way of simplifying the complex. They can be characterized by four key elements: agents with schemata, self-organizing networks sustained by importing energy, coevolution to the edge of chaos and system evolution based on recombination (Anderson, 1999).
- Self-Similarity and Fractals. Self-similarity means the invariance exhibited by the complex system, even its scale is keeping change. As Morel and Ramanujam (1999) said 'the relationships between different subsystems in a system are similar to the relationships between elements in each subsystem'. The word of 'fractals' is borrowed from concept of mathematics because of their dimensions. As the most frequently method to analyze self-similarity, fractals provide effective tool to study the complex system from whole-system to subsystem, from macro to micro. Through this tool, we can simulate the self-similarity of complex systems and built the corresponding model. At the same time, through the fractal modeling, we could decompose the complexity of systems.
- Self-Organized Criticality (SOC).SOC could be easily found in complex systems, Bak (1996), Bak and Chen (1991) and Paczuski *et al.* (1996) regard SOC as the characteristic of complex system. They demonstrated SOC which distributes widely in nature through the famous Sandpile Model and gave a vivid illustration of form process and characteristics of SOC. The essential characteristic of SOC is that a complex system which stayed in a sustained non-equilibrium state, the interactions of each subassembly will evolve automatically to critical equilibrium state-critical state. At the same time the evolution of system obeys a power law form and there is self-similarity behaviors shown by the system which obeys a power law form.
- Self-Organization. Morel and Ramanujam (1999) define self-organization as 'a dynamic process by which under its own dynamics, a system spontaneously gets increasingly more organized'. As SOC, self-organization is a commonly phenomenon in the nature, especially in biological evolution, self-organization plays a vital role. A system which is composed of many interacting elements will embody characteristics of self-organization, Thompson (1967) even treat self-organization as the basic feature of all individual or organization.

**Applications of complexity theory to organization science:** As complexity is the key feature of our world (Anderson, 1999), the word of complexity has become the most import word in modern organizational researches after the open system angle rising widely in organization theory. The influences of complexity science to modern organization theory including as follow:

- Application of new models. With the rapidly development of new computing technologies and internet technology, the computer programming languages indeed accommodated models which linked variables together in complex feedback loops. The new models, such as Cellular Automata, Neural Networks, Genetic Algorithms and Classifier Systems, are used extensively in complex systems research.

- Pointing out new directions for organizational strategic management. After the Second World War, with the development of society, the progress of science and technology developed organizational geographical, product or market scope; the relationships between organizations, organizational environment and other stakeholders become more and more complex. In the highly competitive environments, organizations exhibit more behaviors of nonlinear and dynamic and the organizational strategic targets require organizations to get their advantages than competitors. All of these depend on organizational behaviors unfold more adaptability but not only planning and complex theory is especially suitable for organizations to against rapidly changes of external environment (McKelvey, 1999).

Organizational managements attempt to achieve the whole organizational complex adaptive feature by two levels: adaptive components of bottom system and the system structure design which fits these components. Depending on all of above, the organization will realize its strategic advantage by using self-organization model (Mintzberg and Waters, 1982).

**The organizational complexity:** Self-organization is one of the first perspectives on complexity research of organizational complexity. There is one view that the new paradigm of organization theories originated from Drucker's article *New Organization* published in Harvard Business Review in 1988. In that paper, the new organizational paradigm which emphasized knowledge based and essentially self-conduction is the paradigm of self-organization but not the traditional paradigm of to-be-organized (Luo, 2006). Haken (1988) considers that if there is no external specific intervention on the process of system achieving the structure of time, space and function, the system could seem as self-organization. Luo (2006) argue that on the new paradigm of organization theories, organization is the process of evolutional system and this process can be divided into two kinds: self-organization and to-be-organized. Base on above, self-organization is regard as the process that all elements organize themselves depending on their own initiative to systematization or ordering. A self-organizational system can organize, create, evolve, innovate and develop without external instruction, it is a continuous process from disorder to order.

Among the self-organization theoretical system, the dissipative structure theories profoundly reveals the self-organizational evolution forms of systems and the development process; the catastrophe theories focuses on the analysis of the pattern of the system's self-organizational evolution from local to the whole; chaotic dynamics and fractal theories describe complexity of the time, spatial structure and characteristics in the system's self-organizational process. These theories form the leading-edge natural science, which researches the complex system's self-organizational evolution.

On the network-organization perspective, Cheng (2001) summarized the performances of the system's complexity as the network behaviors between components of the system, multilevel and multifunction of structures of the system, the reorganization of the level and the functional structure during development process of the system, the dynamic characteristics and the changing abilities to adaptive the future development. Learn the angle of view from organizational evolution, Miles and Snow (1992) viewed network organization as the fourth new organizational form, following functional organization, divisional organization and matrix organization.

As stated previously, the form of the organization at present influenced by the technical environment and institution environment exhibits a lot of new characters, such as flat, network and flexibility. The relationships of organization-organization and organization-environment become more and more complex. Modern organization theories treated organization as an open, dynamic system, focus on organizational environment. On the human-environment-relationship perspective, modern organizational scholars study on organization from the point of individual, local rules to the systemic research and organizational relationship with environment. And then, complexity science is applied in organization theories. Complex organization is regarded as complex system, or equal to CAS from the perspective of open and system. The scholars pay more attentions to the characters of complex organization, such as nonlinear behaviors, self-organization and so on. The method of CAS is a truly effective way of simplifying and analyzing the complex, but it is conditional that complexity systems are regarded as CAS. They must fit seven basic points what were described by Holland (1996), including four characteristics: aggregation, nonlinear, flows and multiplicity; and three mechanisms: tagging, internal model and blocks. The origin of complexity of CAS is the interaction mechanism between agents and the order just is the result of emergence. Therefore, a network organization just is a form of complex organizations and a self-organization just is one of the most important characteristic of complex organizations. In the researches of complex organizations, the causes of complexity and working mechanisms of agents are prior.

The characteristics of self-organization and emergence are studied on the base of aggregation and fractal.

## CONCLUSION

Organizations are universal phenomena in human social and organization theories originate in organizational practices and in turn serve practices. The development of productivity and new technologies cause the changes of the organizational environments and organizational practices,that propel organization theories continually being evolved. In the point of view of human-machine-relationship, classical organization theories have created new research field of scientific management, replacing the arbitrary managers with scientific and rational procedures, but it ignores the human nature. With the improvement of productivity and the educational level of employees, neoclassical organization theories on human-human-relationship perspective replace the mechanical, static, structural and physiological researches in classical organization theory with humanized, dynamic, functional, psychological researches. These two theories have built the mainstream structure of organization design with hierarchical feature, emphasizing the divisions of labor and specialization, achieving a static solution. Today, the mankind has entered the information age when innovations of the knowledge are the impellent powers of social development. As organizations and their environments have become more and more complex, modern organization theories focus on organizational environment and treated organization as an open, dynamic system. On the human-environment-relationship perspective, organizational scholars study on organization from the point of individual, local rules to the systemic research and organizational relationship with environment. Now, complexity science is applied in organization theories, new models and new directions are being used in organizational research field. The complexity paradigm is becoming the mainstream paradigm of organization theories.With the constant development of science and technology, the complexity degrees of future organizations and their environments will be higher and higher. It can be predicted that organization theories will develop continuously under the complexity paradigm.

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