



Rational, Natural and Open Systems Perspectives of Organizations **(<http://www.katewillyard.com/academic-blog/rational-natural-and-open-systems-perspectives-of-organizations>)**

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There are three key theoretical perspectives of organizations: rational, natural and open systems. Understanding these different perspectives is critical because each makes important points about organizations. Additionally, the three perspectives embody the historical development of the science of organizations. This historical development reveals why the three perspectives focus on particular aspects of organizations. Modern organizational theory can be described as a combination of these three main perspectives (Scott 2003).

The science of organization emerged in the early 1900s. In response to the increased rationality of modern life, early researchers focused on the legal rational rules and regulations governing organizations. From the rational system perspective, "Organizations are collectivities oriented to the pursuit of relatively specific goals and exhibiting relatively highly formalized social structures" (Scott 2003:27). Rational systems theorists focus on formalization and goal specificity of organizations because they are critical elements of the rationality of organizations. Important rational systems theories include scientific management (Taylor 1911), administrative theory (Fayol 1919), decision making theory (Simon 1945) and bureaucratic theory (Weber 1968).

Scientific management takes a rational systems approach to organizations. This perspective, pioneered by Frederick Taylor (1911), attempts to quantify and develop more efficient work procedures through formal mechanisms. Through case studies at Bethlehem Steel, Taylor (1911) found productivity can be maximized through managerial control of the production process. He argues companies should use scientific management rather than follow ordinary management principles. Scientific management differs from ordinary management by: (1) developing a science (measurable rules, regulations and procedures) for the working process instead of using the rule-of-thumb method, (2) workers are scientifically selected, and trained rather than the worker having control over the production process, (3) management cooperates with workers to ensure workers follow set procedures to set standards, and (4) work and responsibility is split between worker and management rather than it being primarily the responsibility of the worker (Taylor 1911). In short, scientific management aimed to increase efficiency by calculating the variables influencing the production process within organizations and using that scientific knowledge to ensure productivity is maximized through formal managerial control of individual tasks.

Administrative theory also takes a rational systems approach to organizations. However, unlike scientific management, which focuses on the social psychological level of analysis, administrative theory focuses on the structural level of the organization. From this perspective (Fayol 1919), formal procedural change is best made from the top-down (changes at the level of the work structure that will affect individual tasks), rather than the

bottom-up (changes at the level of individual tasks that will affect the larger work structure). Administrative theory focuses on two parts of the organization's structure: coordination and specialization. Coordination is the hierarchical organizational form controlling the relations between organizational participants. Specialization is how activities are grouped among work groups. Administrative theory moved beyond scientific management by looking beyond the individual and focusing on the organizational structure. However, like scientific management, it is fixated on studying formal aspects of organizations in an effort to maximize efficiency.

Another rational systems perspective, decision making theory, also focuses on the formal aspects of organizations. Like scientific management (and unlike administrative theory), Simon's decision making theory focuses on the individual, rather than the structure. However, Simon critiqued scientific management assumptions of the economically rational worker. Although workers may seek to maximize their self-interest, they often do not know what is in their self-interest and they do not know all other possible options (Simon 1945). Organizations simplify decisions by setting goals and premises. Decision making theory expanded understanding of how the worker makes decisions by accounting for organizational constraints and gaps in knowledge. Nevertheless, like other rational perspectives, it focuses on the formal structures used to achieve set tasks.

Weber's analysis of legal rational authority and bureaucratic ideal types contributes to rational perspectives of organizations (Scott 2003). According to Weber (1968), there are three main types of authority: traditional authority (i.e. authority based on traditions), charismatic authority (i.e. authority based on the perceived extraordinary powers of an individual), and legal rational authority (i.e. authority based on written rules and procedures). Each authoritative type is associated with a particular administrative structure. As such, legal-rational authority relates to the bureaucratic ideal type. An ideal type is a construct or abstraction describing distinguished features of a specific form, but rarely found in society. There are particular characteristics which make up the bureaucratic ideal type: (1) a set of rules and regulations, such as routine activities, the authority to give commands and regulated expectations and qualifications, (2) a hierarchy with ordered authority and turnover management, (3) a written charter and documentation of organizational activities, (4) effective management through expert training, (5) operates at full working capacity, and (6) management is based on a stable and teachable set of rules. In addition, there are certain features associated with the ideal type of a bureaucratic worker or official: (1) officials are pursuing a vocation that requires certain trainings, (2) officials are appointed by superiors and are held accountable which is associated with a perceived higher status, (3) officials have tenure, (4) officials receive a salary, and (5) officials are pursuing a career (Weber 1968). Bureaucracies and officials differ in regards to their purpose and scope. In modern society, bureaucracies flourish because they increase calculability and can be used to level social differences. As such, bureaucracies, with their formal rules and regulations, are currently the most efficient method of social organization.

Whereas rational systems perspectives focus on the formal aspects of organizations, natural systems perspectives examine its informal aspects. Natural systems perspectives emerged in the 1930s in response to rational system approaches to organizations. Although the formal structure of modern organizations is important, often individuals in organizations do not adhere to formal rules. From the natural system perspective, "Organizations are collectivities whose participants are pursuing multiple interests, both disparate and common, but who recognize the value of perpetuating the organization as an important resource. The informal structure of relations that develops among participants is more influential in guiding the behavior of participants than is the formal structure" (Scott 2003:28). Natural systems theorists focus on goal complexity

and informal structure. Important natural systems theories include cooperative systems (Barnard 1938) and human relations (Buroway 1979; Roethlisberger and Dickson 1939).

Cooperative systems theory takes a natural systems approach recognizing the informal aspects necessary for organizations to exist. According to Barnard (1938:96): "An organization comes into being when (1) there are persons able to communicate with each other (2) who are willing to contribute action (3) to accomplish a common purpose. The elements of an organization therefore (1) communication (2) willingness to serve and (3) common purpose." Individuals within organizations must be induced to contribute, often through informal means. As such, the informal aspects of organizations is critical to understanding how organizations work.

Human relations theory also takes a natural systems approach to organizations. From this perspective, the behavior of individuals in organizations is influenced by the social context. Human relations theory developed out of a series of studies conducted at the Hawthorne Plant, starting in the 1930s. Like scientific management, human relations theory focused on the individual level. However, unlike scientific management, it focuses on the informal aspects affecting productivity. According to human relations theory, the behavior of individuals within organizations is influenced by organizational ideology, defined as: "the system of ideas and beliefs by means of which the values of both the formal and informal aspects of the social organization are expressed and the symbols around which these values are organized" (Roethlisberger and Dickson 1939: 81). Organizations are social systems in which groups are interdependent and rely upon organizational ideology to justify social relations. As such, problems within organizations are primarily due to conflict between the organizational ideology and actual work processes. Likewise, in another study of the Hawthorne Plant, Buroway (1979) found informal aspects, rather than written rules and regulations, have a major influence on the behavior of individuals in organizations. Unlike rational systems models, Buroway conceptualizes internal conflicts within organizations- individuals within organizations have competing goals different to the formal goals of the organization. Internal conflict is mediated through an ideology of competitiveness. In short, from the perspective of human relations theory, ideology (a key informal aspect of organization) has a major influence on individuals within organizations.

Both rational and natural systems perspectives tend to focus on factors within the organization and hold the environment constant, meaning they take a closed systems approach. However, organizations do not operate in a bubble, they are effected by their external environment. Open systems perspectives emerged in the 1960s to explain interrelationships between organizations and their external environment. From the open systems perspective, "Organizations are congeries of interdependent flows and activities linking shifting coalitions of participants embedded in wider material-resource and institutional environments" (Scott 2003:29). More recent organizational perspectives combine open system models with rational and natural perspectives (Scott 2003). For instance, open system rational models include theories such as bounded rationality (March and Simon 1958), contingency theory (Lawrence and Lorsch 1967), and transaction cost theory (Williamson 1975). On the other hand, open system natural models include theories such as organizational population ecology (Hannan and Freeman 1977; Hannan and Freeman 1984), resource dependence (Pfeffer and Salancik 1978), and institutional theory (Selznick 1949; Meyer and Rowan 1977; DiMaggio and Powell 1983).

Bounded rationality takes an open systems rational approach to organizations, meaning it focuses on the formal rational aspects of organizations while accounting for the external environment. Building upon Simon's (1945) decision making theory, bounded rationality examines the influence of the environment on decision making within organizations. Individual understanding is limited and related to environmental contexts.

According to March and Simon (1958:137): "The organization and social environment in which the decision maker finds himself determines what consequences he will anticipate, what one he will not; what alternatives he will consider, what ones he will ignore. In a theory of organization these variables cannot be treated as unexplained independent factors, but must themselves be determined and predicted by the theory." Environmental stimuli serve as the foundation upon which routine activities within organizations are built. As such, the external environment is critical to understand rational decision-making within organizations.

Like bounded rationality, contingency theory supports an open-rational systems perspective of organizations. However, whereas bounded rationality focuses on the social-psychological level of analysis, contingency theory focuses on the structural level. Like other rational, open systems approaches, contingency theory accounts for the effect of the external environment on the rational behavior of organizations. From this perspective, the external environment provides different constraints and opportunities for organizations. Lawrence and Lorsch (1967) find environmental uncertainty influences decision-making within organizations and relates to the internal formal structures of organizations. Organizational structures change in response to rational decisions made in contexts to environmentally dependent constraints and opportunities.

Transaction costs theory also takes an open, rational systems approach to organizations. Transaction costs theory contributes to our understanding of the effect of the external environment on the rational behavior of organizations by examining the cost of performing an economic exchange, i.e. transaction costs (Williamson 1981). Organizations attempt to minimize the costs of coordinated social activity (Coase 1937) Transaction costs influence organizational structure and the decisions of organizational participants. As such, the transaction is the ideal level of analysis for organizational research (Williamson 1981). Like other open rational systems approaches, transaction costs theory assumes organizational behavior is rational and influenced by the external environment. However, unlike other perspectives, transaction costs theory focuses on the ecological level, meaning it looks at groups of organizations (Scott 2003).

Like transaction costs theory, organizational population ecology focuses on the ecological level. However, unlike transaction costs theory, organizational population ecology takes a natural systems approach to organizations, meaning it does not assume organizational behavior is rational. It is not organizations that optimize, but the external environment (Hannan and Freeman 1977). Organizations tend to stay the same due to structural inertia. According to Hannan and Freeman (1984:149): "Some of the factors that generate structural inertia are internal to organizations: these include sunk costs in plant, equipment, and personnel, the dynamics of political coalitions, and the tendency for precedents to become normative standards. Others are external. There are legal and other barriers to entry and exit from realms of activity. Exchange relations with other organizations constitute an investment that is not written off lightly. Finally, attempting radical structural change often threatens legitimacy; the loss of institutional support may be devastating." Due to these pressures, organizations do not frequently change or adapt to their environment. In addition, organizational populations tend to be similar due to structural isomorphism (Hannan and Freeman 1977): "In each distinguishable environmental configuration one finds, in equilibrium, only that organizational form optimally adapted to the demands of the environment. Each unit experiences constraints which force it to resemble other units with the same set of constraints." Since similar organizations operate in similar environments with similar pressures, they tend to have similar structures. In short, organizational structure is not determined by efficiency, but environmental fit.

Resource dependence theory also takes a natural open systems approach to organizations. However, from the

resource dependence theory perspective, not only does the environment influence organizations, organizations also influence their environment. Organizational structure is not determined by efficiency, but by power struggles (Pfeffer and Salancik 1978). Organizations rely upon their external environment to survive. This reliance causes interdependence and competition for resources within and between organizations. Individuals within organizations scan the environment for opportunities and threats and use such interpretations to achieve favorable outcomes, sometimes by changing the external environment.

Similar to organizational population ecology and resource dependence theory, institutional theory adopts an open-natural systems approach at the ecology level. Like other natural systems perspectives, according to institutional theory, formal structure is distinct from the actual activities of organizations. Similar to March and Simon (1958), institutional theory accounts for cognitive controls in organizations. However, unlike bounded rationality (March and Simon 1958), from the institutional theory perspective, behavior is not the result of formal, rational programs, but institutional myths and symbols. Organizations are influenced by symbols established in their institutional environment rather than established formal goals (Selznick 1949). Institutional theory assumes isomorphism (like organizational population ecology). According to DiMaggio and Powell (1983:149) isomorphism is "a constraining process that forces a unit in a population to resemble other units that face the same set of environmental conditions." Isomorphism occurs through coercive, mimetic and normative pressures from the external environment (DiMaggio and Powell 1983). Isomorphism has major implications for organizations: (1) organizations are not based on efficiency, but on external legitimacy, (2) the perceived value of structural elements of organizations are determined by external criteria, and (3) dependence on external organizations reduces uncertainty and maintains stability (Meyer and Rowan 1977). In short, organizational behavior is the result of often informal pressures from the external environment.

In conclusion, organizations are understood to be rational, natural and/or open systems. The historical development of organizational theory explains why each theoretical perspective focuses on particular parts of organizations. Since it is the foundation of organizational theory, modern perspectives combine these rational, natural and/or open systems models.

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[March 2017 \(/academic-blog/archives/03-2017\)](/academic-blog/archives/03-2017)

[January 2017 \(/academic-blog/archives/01-2017\)](/academic-blog/archives/01-2017)

[December 2016 \(/academic-blog/archives/12-2016\)](/academic-blog/archives/12-2016)

[May 2016 \(/academic-blog/archives/05-2016\)](/academic-blog/archives/05-2016)

[February 2016 \(/academic-blog/archives/02-2016\)](/academic-blog/archives/02-2016)

[January 2016 \(/academic-blog/archives/01-2016\)](/academic-blog/archives/01-2016)

[December 2015 \(/academic-blog/archives/12-2015\)](/academic-blog/archives/12-2015)

[November 2015 \(/academic-blog/archives/11-2015\)](/academic-blog/archives/11-2015)

[October 2015 \(/academic-blog/archives/10-2015\)](/academic-blog/archives/10-2015)

[September 2015 \(/academic-blog/archives/09-2015\)](/academic-blog/archives/09-2015)

[August 2015 \(/academic-blog/archives/08-2015\)](/academic-blog/archives/08-2015)

[July 2015 \(/academic-blog/archives/07-2015\)](/academic-blog/archives/07-2015)

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[All \(/academic-blog/category/all\)](/academic-blog/category/all)

[Economic Sociology \(/academic-blog/category/economic-sociology\)](/academic-blog/category/economic-sociology)

[Environmental Sociology \(/academic-blog/category/environmental-sociology\)](/academic-blog/category/environmental-sociology)

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