

Organizational Structure and Design

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Abstract

In this paper, the author examines several structural frameworks: Weber's model of bureaucracy, Likert's system 4 organization, Bolman and Deal's four-frame model, Mintzberg's strategy-structure typology, Scott's open-systems perspective, Senge's learning organization, and Bass's transformational leadership.

In the broadest sense, the usefulness of organizational structure in the field is an attempt to create organizations with best administrative styles or practices; increased capacity for organizational learning; greater opportunities for the individual growth and fulfillment of its members; and ultimately organization success.

Key Words: Organizational Structure and Organizational Theory, Leadership.

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Introduction

The purpose of this paper is to understand the various types of organizational structures and factors that influence the structure for a given purpose. Three terms need to be clarified at the outset. An organization is a collection of people working together to achieve a common purpose. Organizational structure is the arrangement of people and tasks to accomplish organizational goals. Organizational design is the process of creating a structure that best fits a purpose, strategy, and environment. Because understanding the structure of organizations is key to appreciating their functioning optimally—and, ultimately, their success—organizational theorists have devoted considerable attention to this topic.

I discuss these efforts in this paper. Specifically, I examine how these structural elements can be most effectively combined into productive organizational designs. In so doing, I examine some of the classical and neo-classical organizational theories as well as some contingency organizational forms.

The Weberian Bureaucratic Model

Max Weber's (1947) classic analysis of bureaucracy is the theoretical basis of most contemporary treatments of structure in organizations (Bolman & Deal, 2008; Hall, 2002; Hoy & Miskel, 2013; Hoy & Sweetland, 2000, 2001; Lunenburg & Ornstein, 2012; Perrow, 1986; Scott, 2007).

Weber's characteristics of bureaucracy apply to many large-sized organizations today. Although few "pure" bureaucracies exist today, almost all organizations have some elements of bureaucracy within their structure: division of labor and specialization, rules and regulations, hierarchy of authority, impersonality in interpersonal relations, and career orientation.

Bureaucratic Characteristics

According to Weber (1947), the ideal bureaucracy possesses the following characteristics.

- ***Division of Labor and Specialization.*** Divide all tasks into highly specialized jobs. Give each jobholder the authority necessary to perform these duties.
- ***Rules and Regulations.*** Perform each task according to a consistent system of abstract rules. This practice helps ensure that task performance is uniform.
- ***Hierarchy of Authority.*** Arrange all positions according to the principle of hierarchy. Each lower office is under the control of a higher one, and there is a clear chain of command from the top of the organization to the bottom.
- ***Impersonality in Interpersonal Relations.*** Maintain an impersonal attitude toward subordinates. This social distance between administrators and staff members helps ensure that rational considerations are the basis for decision making, rather than favoritism or prejudices.
- ***Career Orientation.*** Base employment on qualifications and give promotions based on job-related performance. As a corollary, protect employees from arbitrary dismissal, which should result in a high level of loyalty.

Bureaucratic Dysfunctions

In a period of increasing demands for accountability, demographic changes in population, and economic crisis, most organizations are being forced to examine their fundamental structural assumptions. Bureaucracy — the basic infrastructure of organizations in the industrial world — is ill suited to the demands of our postindustrial, demographically diverse information society (Murphy, 2002). Bureaucratic characteristics not only are being viewed as less than useful but also are considered to be harmful. Some of these built-in dysfunctions of bureaucracy include the following:

1. *Division of labor and specialization*

A high degree of division of labor can reduce staff initiative. As jobs become narrower in scope and well defined by procedures, individuals sacrifice autonomy and independence. Although specialization can lead to increased productivity and efficiency, it can also create conflict between specialized units, to the detriment of the overall goals of the organization. For example, specialization may impede communication between units. Moreover, overspecialization may result in boredom and routine for some staff, which can lead to dissatisfaction, absenteeism, and turnover.

2. *Reliance on rules and procedures*

Weber (1947) claimed that the use of formal rules and procedures was adopted to help remove the uncertainty in attempting to coordinate a variety of activities in an organization. Reliance on rules can lead to the inability to cope with unique cases that do not conform to normal circumstances. In addition, the emphasis on rules and procedures can produce excessive red tape. The use of rules and procedures is only a limited strategy in trying to achieve coordinated actions. Other strategies may be required. But bureaucracy's approach is to create new rules to cover emerging situations and new contingencies.

And, once established, ineffectual rules or procedures in a bureaucracy are difficult to remove.

3. *Emphasis on hierarchy of authority*

The functional attributes of a hierarchy are that it maintains an authority relationship, coordinates activities and personnel, and serves as the formal system of communication. In theory, the hierarchy has both a downward and an upward communication flow. In practice, it usually has only a downward emphasis. Thus, upward communication is impeded, and there is no formal recognition of horizontal communication. This stifles individual initiative and participation in decision making.

4. *Lifelong careers and evaluation*

Weber's (1947) bureaucratic model stresses lifelong careers and evaluations based on merit. Because competence can be difficult to measure in bureaucratic jobs, and because a high degree of specialization enables most employees to master their jobs quickly, there is a tendency to base promotions and salary increments more on seniority and loyalty than on actual skill and performance. Thus, the idea of having the most competent people in positions within the organization is not fully realized. Loyalty is obtained; but this loyalty is toward the protection of one's position, not to the effectiveness of the organization.

5. *Impersonality*

The impersonal nature of bureaucracy is probably its most serious shortcoming. Recent critics of bureaucracy attack it as emphasizing rigid, control-oriented structures over people.

New viewpoints are leading to a decline in the use of bureaucratic structure in modern organizations (Etzioni-Halevy, 2010; Rowan, 1990; Senge et al., 2012). Leaders in the twenty-first century will see a change in some of their duties. One change will be a shift away from simply supervising the work of others to

that of contributing directly to the organization's goals. Instead of shuffling papers and writing reports, the modern administrator may be practicing a craft (Glickman, 2006).

The excessive rigidity and inherent impersonality of the bureaucratic approach stimulated interest in participatory management. Participatory management represents alternative strategies for the design of organizations. Supportiveness, shared leadership, flexibility, and organization member growth and development are the keys to participatory management. These new theories of organization place greater emphasis on employee morale and job satisfaction. Participatory management stresses the importance of motivating organization members and building an organization for that purpose. The organization is structured to satisfy employees' needs, which will in turn result in high organization member productivity. Examples include Likert's system 4 organization and Bolman and Deal's frames of organization. Let's examine each one of these structures more closely.

System 4 Organization

Rensis Likert (1979, 1987) opposes the kinds of organizations that hew to the bureaucratic model. Likert's theory treats the structural prescriptions for organizational effectiveness more explicitly and completely. He builds his structural recommendations around three key elements that undergird four systems of organization.

Based on many years of research conducted in various organizational settings—industrial, government, health care, and educational—Likert (1979) proposed four basic systems of organization. System 1, which Likert originally labeled exploitive authoritative, follows the bureaucratic or classical structure of organization. Characteristics of the classical structure include limited supportive leadership,

Table 1

Characteristics of System 1 and System 4

Organizational Characteristics	System 1 Organization	System 4 Organization
Leadership	Little confidence and trust between administrators and subordinates	Subordinates ideas are solicited and used by administrators
Motivation	Taps fear, status, and economic motives exclusively	Taps all major motives except fear
Communication	One-way, downward communication	Communication flows freely in all directions
Interaction influence	Little upward influence; downward influence overestimated	Substantial influence upward, downward, and horizontally
Decision making	Centralized; decisions made at the top	Decentralized; decisions made throughout the organization
Goal setting	Established by top-level administrators and communicated downward	Established by group participation
Control	Close over-the-shoulder supervision	Emphasis on self-control
Performance goals	Low and passively sought by administrators; little commitment to developing human resources	High and actively sought by administrators; full commitment to developing human resources

motivation based on fear and superordinate status, one-way downward communication, centralized decision making, close over the shoulder supervision, no cooperative teamwork, and low performance goals of administrators.

The **System 4 organization**, which Likert calls participative group, is more team-oriented. There is a high level of trust and confidence in the superior; communication flows freely in all directions; decision making occurs throughout the organization; cooperative teamwork is encouraged; and leaders actively seek high performance goals. System 2 is less classical than System 1, and System 3 is less supportive than System 4 while coming closer to Likert's ideal model of organization. Table 1 shows the characteristics of System 1 and System 4, the extreme ends of Likert's systems continuum.

Key Elements of System 4

According to Likert (1987), System 4 has three key elements: the administrator's use of the principle of supportive relationships, the use of group decision making in an overlapping group structure, and the administrator's high-performance goals for the organization. The underlying theory is that if an organization is to be effective, the leadership and other processes of the organization must ensure that in all interactions between superordinates and subordinates, subordinates will perceive the relationship as enhancing their own sense of personal worth and importance in the organization. Furthermore, Likert argues that "an organization will function best when its personnel function not as individuals but as members of highly effective work groups with

high performance goals" (Likert, 1987, p. 98). In this way, decisions are group decisions, not simply orders from above. And the leader is seen as a "linking-pin;" that is, the leader is the head of one group but a member of another group at the next higher level. For example, the school principal is the leader of school staff but also a subordinate to an administrator at the central office in another group at the next level in the organization. Thus, the principal serves as an important communication link between two levels of organization—school and school system.

System 4 Variables

Likert identifies System 4 as the ideal model of organization. The object of this approach is to move an organization as far as possible toward System 4. To analyze an organization's present system and move it toward System 4, Likert uses an organizational paradigm consisting of three broad classes of variables.

Causal variables are independent variables that affect both the intervening and end-result variables. They include the administrator's assumptions about followers, the organization's goals and how they emerge, administrative behavior and practices, the

nature of the authority system that prevails, the union contract, the administrator's view of change, and the needs and desires of members of the organization. Causal variables are within the control of administration, and the value that administration places on these variables will determine the organization's management system. Causal variables, then, are the ones school administrators should attempt to change in order to move the organization to System 4.

Intervening variables, representing the internal state and health of the organization, are those variables that are subsequently affected by causal variables. They include the attitudes that organization members have toward their jobs, their superiors, peers, and other organization members; their commitment to organizational goals; their levels of performance goals; their levels of group loyalty and group commitment to the organization; their confidence and trust in themselves and their superiors; their feeling of upward influence in the organization; their motivational forces; and the extent to which communications flow freely and in all directions within the organization.

End-result variables are dependent variables that represent the achievements of the organization. In schools they include

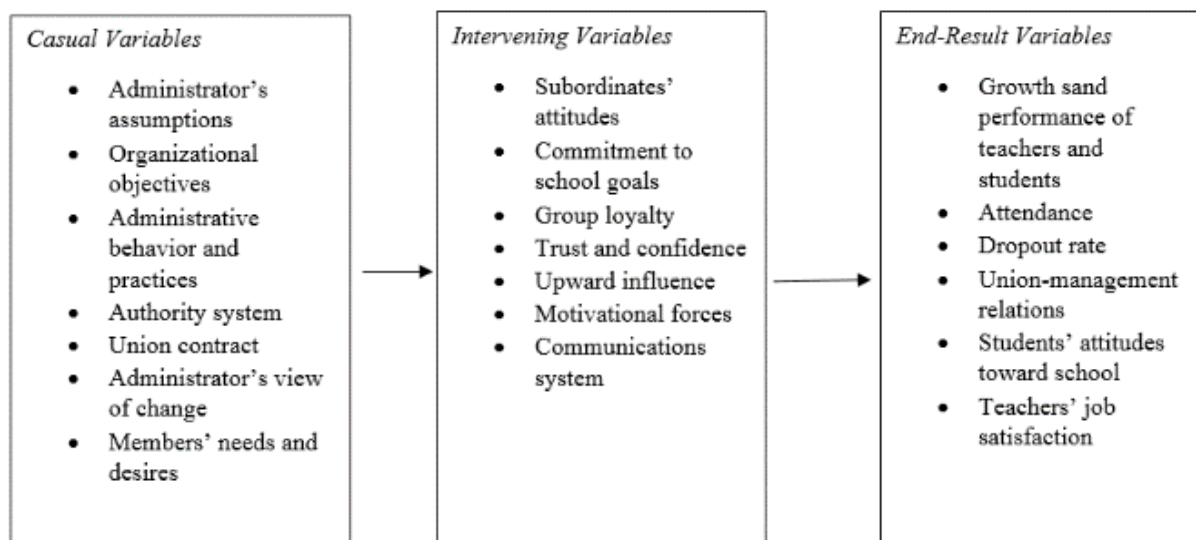


Figure 1. Relationships among Casual, Intervening, and End-Result Variables in a System 4 Organization

performance and growth levels of teachers and students, absence and turnover or dropout rates of employees and students, union-management relations, school-community relations, students' attitudes toward school, and levels of intrinsic job satisfaction of school employees. Figure 1 shows the relationship among the variables.

To move an organization to System 4, Likert (1987) recommends using the survey-feedback method and leadership training. Using his Profile of Organizational Characteristics instrument, the organization can determine the management system that is currently in place. The survey instrument measures the eight characteristics of organizational systems (see Table 1). Respondents are given a range of choices for each item on the questionnaire, through which they indicate whether the organization tends to be exploitive authoritative (System 1), benevolent authoritative (System 2), consultative (System 3), or participative group (System 4). Respondents are also asked where they would like the organization to be on the continuum. Then an organization-systems profile chart is plotted, which visually conveys the organization's present management system and the desired system. Another instrument, the Profile of a School, also measures the organizational systems of schools. It has several

versions that can be used with students, teachers, counselors, principals, superintendents, central office administrators, school board members, and parents. By comparing the perceptions of several subgroups within the organization, it is possible to measure the management system of a school or an entire school district.

The profile charts become a basis for discussing and analyzing an organization's management system so that plans for improving it can be made. Because effectiveness and System 4 go together in Likert's theory, the implications for organizational improvement are straightforward: Move the present management style of the organization to System 4 and keep it there. This is accomplished by training all school administrators throughout the organization to acquire the skills needed for achieving a System 4 structure: manifesting supportive leadership, focusing on high performance goals, and building intact work groups into more effective teams.

Frames of Organization

Lee Bolman and Terrence Deal (2008) provide a four-frame model (see Table 2) with its view of organizations as factories (structural frame), families (human resource frame), jungles (political frame), and temples (symbolic

Table 2
Overview of the Four-Frame Model

	Frame			
	Structural	Human Resource	Political	Symbolic
Metaphor for organization	Factory or machine	Family	Jungle	Carnival, temple, theater
Central concepts	Rules, roles, goals, policies, technology, environment	Needs, skills, relationships	Power, conflict, competition, organizational	Culture, meaning, metaphor, ritual, ceremony
Image of Leadership	Social architecture	Empowerment	Advocacy	Inspiration
Basic leadership challenge	Attune structure to task, technology, and environment	Align organizational and human needs	Develop agenda	Create faith, beauty, meaning

frame). Their distillation of ideas about how organizations work has drawn much from the social sciences—particularly from sociology, psychology, political science, and anthropology. They argue that their four frames or major perspectives can help leaders make sense of organizations. Bolman and Deal (2008) further assert that the ability to reframe—to reconceptualize the same situation using multiple perspectives—is a central capacity for leaders of the twenty-first century.

- **Structural Frame.** Drawing from sociology and management science, the structural frame emphasizes goals, specialized roles, and formal relationships. Structures—commonly depicted by organizational charts—are designed to fit an organizations environment and technology. Organizations allocate responsibilities to participants ("division of labor") and create rules, policies, procedures, and hierarchies to coordinate diverse activities. Problems arise when the structure does not fit the situation. At that point, some form of reframing is needed to remedy the mismatch.
- **Human Resource Frame.** The human resource frame, based particularly on ideas from psychology, sees an organization as much like an extended family, inhabited by individuals who have needs, feelings, prejudices, skills, and limitations. They have a great capacity to learn and sometimes an even greater capacity to defend old attitudes and beliefs. From a human resource perspective, the key challenge is to tailor organizations to people—to find a way for individuals to get the job done while feeling good about what they are doing.
- **Political Frame.** The political frame is rooted particularly in the work of political scientists. It sees organizations as arenas, contests, or jungles. Different interests compete for power and scarce

resources. Conflict is rampant because of enduring differences in needs, perspectives, and lifestyles among individuals and groups. Bargaining, negotiation, coercion, and compromise are part of everyday life. Coalitions form around specific interests and change as issues come and go. Problems arise when power is concentrated in the wrong places or is so broadly dispersed that nothing gets done. Solutions arise from political skill and acumen in reframing the organization.

- **Symbolic Frame.** The symbolic frame, drawing on social and cultural anthropology, treats organizations as tribes, theaters, or carnivals. It abandons the assumptions of rationality more prominent in the other frames. It sees organizations as cultures, propelled more by rituals, ceremonies, stories, heroes, and myths than by rules, policies, and managerial authority. Organization is also theater: Actors play their roles in the organizational drama while audiences form impressions from what they see onstage. Problems arise when actors play their parts badly, when symbols lose their meaning, when ceremonies and rituals lose their potency. Leaders reframe the expressive or spiritual side of organizations through the use of symbol, myth, and magic.

The bureaucratic and participatory management models laid the groundwork for more complex approaches to organizational structure. Top-level leaders must consider the relative suitability of alternative approaches to organizational structure, based on the problems they face and the environment in which they work. Some alternative approaches to organizational structure are described, including Mintzberg's (1992, 2009) strategy-structure typology, Scott's (2007) open systems theory, Senge's learning organization (2006), and Bass's transformational leadership (1986).

Strategy-Structure Typology

Another alternative approach to organizational structure concerns the relationship between organizational strategy and structure. Social scientists contend that an organization's strategy determines its environment, technology, and tasks. These variables, coupled with growth rates and power distribution, affect organizational structure. Henry Mintzberg (2009) suggests that organizations can be differentiated along three basic dimensions: (a) the key part of the organization, that is, the part of the organization that plays the major role in determining its success or failure; (b) the prime coordinating mechanism, that is, the major method the organization uses to coordinate its activities; and (c) the type of decentralization used, that is, the extent to which the organization involves subordinates in the decision-making process. The key parts of an organization are shown in Figure 2 and include the following (Mintzberg, 2009)

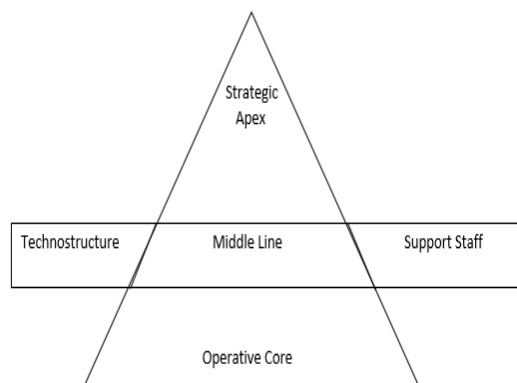


Figure 2. Key Parts of an Organization

- **The strategic apex** is top administration and its support staff. In school districts, this is the superintendent of schools and the administrative cabinet.
- **The operative core** are the organization members who actually carry out the organization's tasks. Teachers constitute the operative core in school systems.

- **The middle line** is middle- and lower-level administration. Principals are the middle-level administrators in school districts.
- **The technostructure** are analysts such as engineers, accountants, planners, researchers, and human resource administrators. In school systems, divisions such as instruction, business, human resources, public relations, and the like constitute the technostructure.
- **The support staff** are the people who provide indirect services. In school districts, similar services include maintenance, clerical, food service, legal counsel, and consulting to provide support.

The second basic dimension of an organization is its prime coordinating mechanism. This includes the following:

- **Direct supervision** means that one individual is responsible for the work of others. This concept refers to the unity of command and scalar principles discussed earlier.
- **Standardization of work process** exists when the content of work is specified or programmed. In school districts, this refers to job descriptions that govern the work performance of educators.
- **Standardization of skills** exists when the kind of training necessary to do the work is specified. In school systems, this refers to state certificates required for the various occupants of a school system's hierarchy.
- **Standardization of output** exists when the results of the work are specified. Because the "raw material" that is processed by the operative core (teachers) consists of people (students), not things, standardization of output is more difficult to measure in schools than in other nonservice organizations. Nevertheless, a movement toward the

standardization of output in schools in recent years has occurred. Examples include competency testing of teachers, state-mandated testing of students, state-mandated curricula, prescriptive learning objectives, and other efforts toward legislated learning.

- **Mutual adjustment** exists when work is coordinated through informal communication. Mutual adjustment or coordination is the major thrust of Likert's "linking-pin" concept discussed earlier.

The third basic dimension of an organization is the type of decentralization it employs. The three types of decentralization are the following:

- **Vertical decentralization** is the distribution of power down the chain of command, or shared authority between

- **Selective decentralization** is the extent to which decision-making power is delegated to different units within the organization. In school districts, these units might include instruction, business, human resources, and public relations divisions.

Using the three basic dimensions—key part of the organization, prime coordinating mechanism, and type of decentralization—Mintzberg (1992) suggests that the strategy an organization adopts and the extent to which it practices that strategy result in five structural configurations: simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and adhocracy. Table 3 summarizes the three basic dimensions associated with each of the five structural configurations. Each organizational form is discussed in turn.

Table 3

Mintzberg's Five Organizational Structures

Structural Configuration	Prime Coordinating Mechanism	Key Part of Organization	Type of Decentralization
Simple structure	Direct supervision	Strategic apex	Vertical and horizontal centralization
Machine bureaucracy	Standardization of work processes	Techno structure	Limited horizontal decentralization
Professional bureaucracy	Standardization of skills	Operating core	Vertical and horizontal decentralization
Divisionalized form	Standardization of outputs	Middle line	Limited vertical decentralization
Adhocracy	Mutual adjustment	Support staff	Selective decentralization

supervisors and staff members in any organization.

- **Horizontal decentralization** is the extent to which non-administrators (including staff) make decisions, or shared authority between line and staff.

Simple Structure

The **simple structure** has as its key part the strategic apex, uses direct supervision, and employs vertical and horizontal centralization. Examples of simple structures are relatively small corporations, new government

departments, medium -sized retail stores, and small elementary school districts. The organization consists of the top administrator and a few staff members in the operative core. There is no technostructure, and the support staff is small; staff members perform overlapping tasks. For example, teachers and school administrators in small elementary school districts must assume many of the duties that the technostructure and support staff perform in larger districts. Frequently, however, small elementary school districts are members of cooperatives that provide many services (i.e., counselors, social workers) to a number of small school districts in one region of the county or state.

In small school districts, the superintendent may function as both superintendent of the district and principal of a single school. Superintendents in such school districts must be entrepreneurs. Because the organization is small, coordination is informal and maintained through direct supervision. Moreover, this organization can adapt to environmental changes rapidly. Goals stress innovation and long-term survival, although innovation may be difficult for very small rural school districts because of the lack of resources.

Machine Bureaucracy

Machine bureaucracy has the technostructure as its key part, uses standardization of work processes as its prime coordinating mechanism, and employs limited horizontal decentralization. Machine bureaucracy has many of the characteristics of Weber's ideal bureaucracy and resembles mechanistic organizations. It has a high degree of formalization and work specialization. Decisions are centralized. The span of control is narrow, and the organization is tall—that is, many levels exist in the chain of command from top management to the bottom of the organization. Little horizontal or lateral coordination is needed. Furthermore, machine bureaucracy has a large technostructure and support staff.

Examples of machine bureaucracy are automobile manufacturers, steel companies, and large government organizations. The environment for a machine bureaucracy is typically stable, and the goal is to achieve internal efficiency. Public schools possess many characteristics of machine bureaucracy, but most schools are not machine bureaucracies in the pure sense. However, large urban school districts (New York, Los Angeles, and Chicago) are closer to machine bureaucracies than other medium-sized or small school systems.

Professional Bureaucracy

Professional bureaucracy has the operating core as its key part, uses standardization of skills as its prime coordinating mechanism, and employs vertical and horizontal decentralization. The organization is relatively formalized but decentralized to provide autonomy to professionals. Highly trained professionals provide nonroutine services to clients. Top administration is small; there are few middle-level administrators; and the technostructure is generally small. However, the support staff is typically large to provide clerical and maintenance support for the professional operating core. The goals of professional bureaucracies are to innovate and provide high-quality services. Existing in complex but stable environments, they are generally moderate to large in size. Coordination problems are common. Examples of this form of organization include universities, hospitals, and large law firms.

Some public school districts have many characteristics of the professional bureaucracy, particularly its aspects of professionalism, teacher autonomy, and structural looseness. For example, schools are formal organizations (Bidwell, 1965), which provide complex services through highly trained professionals in an atmosphere of structural looseness (Rowan, 1990). These characteristics tend to broaden the limits of individual discretion and performance. Like attorneys, physicians, and university

professors, teachers perform in classroom settings in relative isolation from colleagues and superiors, while remaining in close contact with their students. Furthermore, teachers are highly trained professionals who provide information to their students in accordance with their own style, and they are usually flexible in the delivery of content even within the constraints of the state-and district-mandated curriculum. Moreover, like some staff administrators, teachers tend to identify more with their professions than with the organization.

Divisionalized Form

The **divisionalized form** has the middle line as its key part, uses standardization of output as its prime coordinating mechanism, and employs limited vertical decentralization. Decision making is decentralized at the divisional level. There is little coordination among the separate divisions. District-level personnel provide some coordination. Thus, each division itself is relatively centralized and tends to resemble a machine bureaucracy. The technostructure in school organizations is located at central office headquarters to provide services to all divisions; support staff is located within each division. Large corporations are likely to adopt the divisionalized form.

Most school districts typically do not fit the divisionalized form. The exceptions are those very large school systems that have diversified service divisions distinctly separated into individual units or schools. For example, a school district may resemble the divisionalized form when it has separate schools for the physically handicapped, emotionally disturbed, and learning disabled; a skills center for the potential dropout; a special school for art and music students and so on. The identifying feature of these school districts is that they have separate schools within a single school district, which have separate administrative staffs, budgets, and so on. Elementary and secondary school districts that have consolidated but retained separate administrative structures with one school board are also examples of the

divisionalized form. As might be expected, the primary reason for a school district to adopt this form of structure is service diversity while retaining separate administrative structures.

Adhocracy

The **adhocracy** has the support staff as its key part, uses mutual adjustment as a means of coordination, and maintains selective patterns of decentralization. The structure tends to be low in formalization and decentralization. The technostructure is small because technical specialists are involved in the organization's operative core. The support staff is large to support the complex structure. Adhocracies engage in nonroutine tasks and use sophisticated technology. The primary goal is innovation and rapid adaptation to changing environments. Adhocracies typically are medium sized, must be adaptable, and use resources efficiently. Examples of adhocracies include aerospace and electronic industries, research and development firms, and very innovative school districts. No school districts are pure adhocracies, but medium-sized school districts in very wealthy communities may have some of the characteristics of an adhocracy.

Strategy and Structure

The work of Mintzberg has laid the groundwork for an understanding of the relationship between an organizations strategy and its structure. The link between strategy and structure is still in its infancy stage. Further research in this area, particularly in service organizations like schools, will enhance school administrators' understanding of school organizations. In the meantime, school leaders must recognize that organization strategy and structure are related (Lunenburg & Irby (2017).

An Open-Systems Perspective

To better understand how organizational models have evolved over the years, we need to know the difference between open and closed systems. All schools are open systems, although the degree of interaction with their environment

may vary. According to **open systems** theory, schools constantly interact with their environments. In fact, they need to structure themselves to deal with forces in the world around them (Norlin, 2009; Scott, 2007). In contrast, a **closed-systems** theory views schools as sufficiently independent to solve most of their problems through their internal forces, without taking into account forces in the external environment.

No Child Left Behind (NCLB) of 2001 is a good example of open systems theory and the impact it has had on schools. Since the federal law was passed, states began to focus their policy on standards, accountability, and the improvement of student achievement. Statewide assessment systems were implemented nationwide. Thus, was born an era of high-stakes testing complete with sanctions for low-performing schools. NCLB has impacted local school districts in every state. And the trend continues under Every Student Succeeds Act of 2015, which replaces and expands many of the provisions of NCLB.

A **system** can be defined as an interrelated set of elements functioning as an operating unit (Senge, 2006). As depicted in Figure 3, an open system consists of five basic elements: inputs, a transformation process, outputs, feedback, and the environment (Scott, 2007).

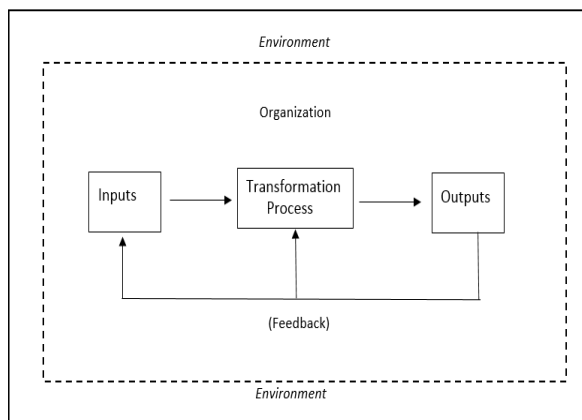


Figure 3. Open Systems Model

Inputs

Systems such as schools use four kinds of **inputs** or resources from the environment: human resources, financial resources, physical resources, and information resources. Human resources include administrative and staff talent, labor, and the like. Financial resources are the capital the school/school district uses to finance both ongoing and long-term operations. Physical resources include supplies, materials, facilities, and equipment. Information resources are knowledge, curricula, data, and other kinds of information utilized by the school/school district.

Transformation Process

The school administrator's job involves combining and coordinating these various resources to attain the school's goals—learning for all. The interaction between students and teachers is part of the transformation or learning process by which students become educated citizens capable of contributing to society. How do school administrators accomplish this? Work of some kind is done in the system to produce outputs. The system adds a *value added* to the work in process (Shaw, 2006).

This **transformation process** includes the internal operation of the school organization and its system of operational management. Some components of the system of operational management include the technical competence of school administrators and other staff, their plans of operation, and their ability to cope with change. Tasks performed by school administrators within the organization's structure will affect the school/school district's outputs.

Analysis of the school as an open system would be incomplete without an examination of the core technology of schooling—the teaching-learning process. The technical core of the school affects many of the decisions school administrators make concerning structure (Rowan, 1998; Rowan, Raudenbush, & Cheong, 1993). Although learning is not limited to school, the process of teaching and learning is

why schools exist.

Generally speaking, learning occurs when experience produces change in one's knowledge or behavior. Most experts agree that there are three general theories of learning: (a) behavioral theories stress observable changes in behavior; (b) cognitive theories stress internal mental activities such as thinking, memory, and problem solving; and (c) constructivist theories stress learners as active in constructing their own knowledge (Woolfolk, 2013). Application of each of these theories of learning has different implications for teaching (see, e.g., Alberto & Troutman, 2009; Bruning, Schraw, & Norby, 2011; Kirchner, Sweller, & Clark, 2006; Windschitl, 2002).

Outputs

It is the administrator's job to secure and use inputs to the schools, transform them—while considering external variables—to produce outputs. In school organizations, **outputs** are the attainment of *goals* or *objectives* of the school district and are represented by the products, results, outcomes, or accomplishments of the system. Although the kinds of outputs will vary with a specific school, they usually include one or more of the following: growth and achievement levels of students and teachers, student dropout rates, employee performance and turnover, student and staff absenteeism, administrator-staff relations, school-community relations, union-management relations, student attitudes toward school, and teacher morale and job satisfaction.

Most of these require no elaboration; only the last one requires some explanation. A school must provide "satisfaction" to members of the school community beyond the physiological needs (salary, working conditions, job security). Schools must provide for employees' needs for affiliation, acceptance, esteem, and perhaps even self-actualization if they hope to retain a motivated, committed work force capable of performing at maximum levels (Maslow, 1970).

Feedback

Feedback is crucial to the success of the school operation. Negative feedback, for example, can be used to correct deficiencies in the transformation process or the inputs or both, which in turn will have an effect on the school's future outputs.

Environment

The **environment** surrounding the school/school district includes the social, political, and economic forces that impinge on the organization. The environment in the open systems model takes on added significance today in a climate of policy accountability. The social, political, and economic contexts in which school administrators work are marked by pressures at the local, state, and federal levels. Thus, school administrators today find it necessary to manage and develop "internal" operations while concurrently monitoring the environment and anticipating and responding to "external" demands.

Since the enactment of the No Child Left Behind (NCLB) Act of 2001 (Public Law 107-110) and subsequent federal legislation Every Student Succeeds Act of 2015, education has been near the top of the national political agenda. NCLB nationalized the discussion concerning the well-being of public schooling in America. At the time the report was released and subsequently, there has been concern with an achievement gap in America (Darling-Hammond, 2010; DuFour, DuFour, Eaker, & Karhanek, 2010; Howard, 2011; Lunenburg, 2013a; Paige, 2011) and our academic competitiveness with other nations, particularly in mathematics and science (U.S. Department of Education, 2008). These achievement gaps and academic comparisons have led many people to conclude that the U.S. public school system was underperforming.

With recognition of an achievement gap and the rise of international educational comparisons, states began to focus their policy on standards, accountability, and the

improvement of student academic achievement (Lunenburg, 2015; Ornstein, 2016). Statewide assessment systems were implemented nationwide. Thus, was born an era of high-stakes testing complete with rewards and sanctions for low-performing schools.

The social, political, and economic forces that impinge on the school organization are not all state and national, however. Local school administrators also face a number of challenges that are exclusively local in nature, such as bond referenda, difficult school boards, and teacher unions. These local political issues can at times confound state mandated policies (Lunenburg & Ornstein, 2012). For example, school administrators often face mandated programs that do not meet the changing demographics of their student population. Teachers are often bound by union contracts that conflict with the norms of their particular school or school district. Superintendents are expected to respond to federal mandates even though resources are scarce. Zero-tolerance policies may require expelling a student, even though it may not be in the best interest of the student to miss school for an extended period of time. And educational leaders are faced with ongoing pressures to show good results on standardized achievement tests, while at the same time dealing with a growing number of management duties, such as budgeting, hiring personnel, labor relations, and site committees resulting from school-based management initiatives.

The Learning Organization

In recent years, organization theorists have extended the open systems model by adding a "brain" to the "living organization." Today leaders are reading and hearing a great deal about learning organizations. Peter Senge (2006), a professor at the Massachusetts Institute of Technology, popularized the concept of learning organization in his best-selling book *The Fifth Discipline*.

A **learning organization** is a strategic commitment to capture and share learning in the organization for the benefit of individuals, teams, and the organization. It does this through alignment and the collective capacity to sense and interpret a changing environment; to input new knowledge through continuous learning and change; to imbed this knowledge in systems and practices; and to transform this knowledge into outputs.

Senge (2006) defines the learning organization as "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together." (p. 3) Senge describes a model of five interdependent disciplines necessary for an organization to seriously pursue learning. He identifies systems thinking as the "fifth discipline" because he believes that thinking systemically is the pivotal lever in the learning and change process. Brief definitions of Senge's principles follow.

- **Systems thinking:** A conceptual framework that sees all parts as interrelated and affecting each other.
- **Personal mastery:** A process of personal commitment to vision, excellence, and lifelong learning.
- **Shared vision:** Sharing an image of the future you want to realize together.
- **Team learning:** The process of learning collectively; the idea that two brains are smarter than one.
- **Mental models:** Deeply ingrained assumptions that influence personal and organizational views and behaviors.

The five disciplines work together to create the learning organization. A metaphor to describe this systems theory-based model would be DNA or a hologram. Each is a complex system of patterns, and the whole is greater than the sum of its parts.

Senge, author of the best-selling book, *The Fifth Discipline*, has written a companion book directly focused on education. In *Schools That Learn*, Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner (2012) argue that teachers, administrators, and other school stakeholders must learn how to build their own capacity; that is, they must develop the capacity to learn. From Senge et al. (2012) perspectives, real improvement will occur only if people responsible for implementation design the change itself. They argue that schools can be recreated, made vital, and renewed not by fiat or command, and not by regulation, but by embracing the principles of the learning organization.

Senge et al. makes a powerful argument regarding the need for a systems approach and learning orientation. They provide a historical perspective on educational systems. Specifically, they detail "industrial age" assumptions about learning: that children are deficient and schools should fix them, that learning is strictly an intellectual enterprise, that everyone should learn in the same way, that classroom learning is distinctly different from that occurring outside of school, and that some kids are smart while others are not. They further assert that schools are run by specialists who maintain control, that knowledge is inherently fragmented, that schools teach some kind of objective truth, and that learning is primarily individualistic and competition accelerates learning. Senge et al. suggest that these assumptions about learning and the nature and purpose of schooling reflect deeply embedded cultural beliefs that must be considered, and in many cases directly confronted, if schools are to develop the learning orientation necessary for improvement.

Transformational Leadership

Building on the work of James McGregor Burns (1978), Bernard Bass (1985) has developed an approach that focuses on both transformational and transactional leadership. Recent research has focused on differentiating

transformational leaders from transactional leaders (Bass, Avolio, Jung, & Berson, 2003; Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004). The more traditional **transactional leadership** involves leader-follower exchanges necessary for achieving agreed upon performance goals between leaders and followers. These exchanges involve four dimensions: contingent reward, management by exception (active), management by exception (passive), and laissez faire (Bass & Riggio, 2006).

- **Contingent Reward:** contracts the exchange of rewards for effort; promises rewards for good performance; recognizes accomplishments.
- **Management by Exception (active):** watches for deviations from rules and standards; takes corrective action.
- **Management by Exception (passive):** intervenes only if standards are not met.
- **Laissez-Faire:** abdicates responsibilities; avoids making decisions.

Transformational leadership is based on leaders' shifting the values, beliefs, and needs of their followers in three important ways (a) increasing followers' awareness of the importance of their tasks and the importance of performing them well; (b) making followers aware of their needs for personal growth, development, and accomplishment; and (c) inspiring followers to transcend their own self-interests for the good of the organization (Bass, 2010). Transformational leadership has four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These four dimensions are often called "the Four Is" (Bass & Riggio, 2006).

- **Idealized Influence:** involves behaving in ways that earn the admiration, trust, and respect of followers, causing followers to want to identify with and emulate the leader. Idealized influence is synonymous with *charisma*. For

example, Steve Jobs, who founded Apple Computer, showed idealized influence by emphasizing the importance of creating the Macintosh as a radical new computer. He followed up with products like the iPod and iPad.

- **Inspirational Motivation:** involves behaving in ways that foster enthusiasm for and commitment to a shared vision of the future. Frequently, that vision is transmitted through the use of symbols to focus efforts. As an example, in the movie *Patton*, George C. Scott stood on a stage in front of his troops with a wall-sized American flag in the background and ivory-handled revolvers in holsters at his sides.
- **Intellectual Stimulation:** involves behaving in ways that challenge followers to be innovative and creative by questioning assumptions and reframing old situations in new ways. For example, your boss encourages you to “think out of the box,” that is, to look at a difficult problem in a new way.
- **Individualized Consideration:** involves behaving in ways that help followers achieve their potential through coaching, professional development, and mentoring. For example, your boss stops by your office and makes comments which reinforce your feeling of personal worth and importance in the organization.

The full range of leadership model (transactional and transformational leadership) is depicted in Figure 4 (Bass & Riggio, 2006). As shown in Figure 4, laissez-faire is the least effective of the leader behaviors. Leaders using this style are rarely viewed as effective. Management by exception (active or passive) is slightly better than laissez-faire, but it is still considered ineffective leadership. Leaders who practice management by exception leadership either search for deviations from standards and take corrective action or tend to intervene only

when there is a problem, which is usually too late. Contingent reward leadership can be an effective style of leadership. The leader attains follower agreement on what needs to be accomplished using promised or actual rewards in exchange for actual performance. Leaders are generally most effective when they regularly use each of the four transformational leadership behaviors: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Riggio, 2006).

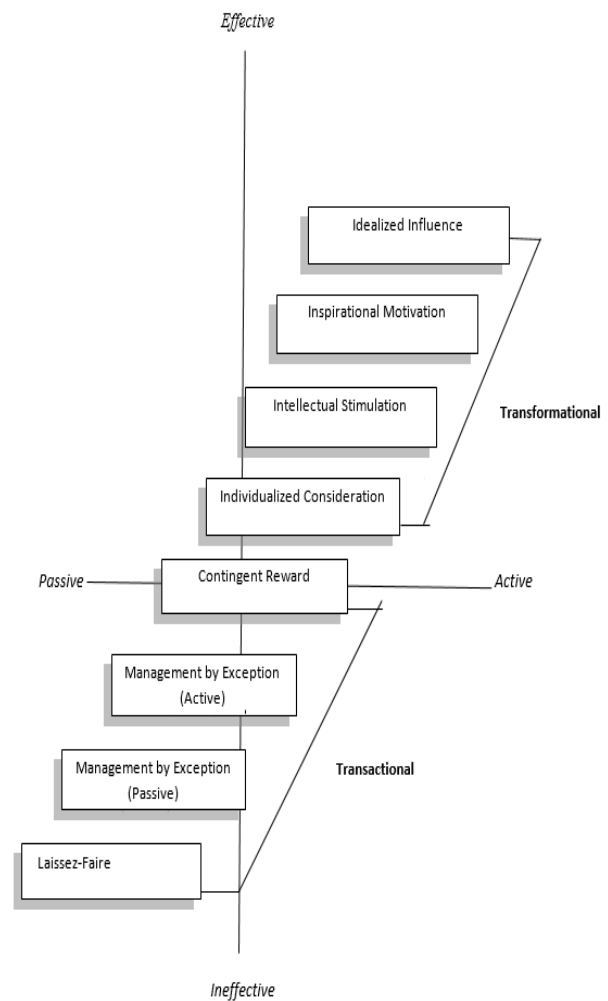


Figure 4. Full Range Leadership Model

How Transformational Leadership Works

A great deal of research has been done to explain how transformational leadership works. Generally, four elements emerge: creativity, goals, vision, and commitment.

Creativity

Transformational leaders are more effective because they are more creative themselves. They are also more effective because they encourage their followers to be more creative as well (Jung, 2001; Jung, Chow, & Wu, 2003). Transformational leaders are proactive rather than reactive; creative rather than compliant; and audacious rather than adherent (Lunenburg, 2010).

Goals

Goals are another key element in how transformational leadership works. Followers of transformational leaders are more likely to pursue ambitious goals, understand and agree with the formal goals of the organization, and believe that the goals they are pursuing will lead to their own self-fulfillment (Berson & Avolio, 2004).

Vision

Transformational leaders create a strategic vision that energizes and unifies followers (Bennis & Nanus, 2007; Quinn, 2004). They communicate the vision with emotional appeal that captivates followers and other stakeholders (Rafferty & Griffin, 2004). Not only do transformational leaders communicate a vision, they also model the vision. In other words, they “walk the talk” by doing things that enact the vision (Simons, 2002). For example, leaders in higher education (deans, associate deans, department heads) walk the talk by doing research, acquiring grants, and publishing extensively in the research and professional literature alongside faculty members they lead.

Commitment

Making a vision a reality requires followers’ commitment. Transformational leaders build commitment to the vision through enthusiasm for every project they tackle; by being persistent in their follow-through on all projects; and by involving followers in the creation of the vision (Dvir, Taly, Kass, & Shamir, 2004).

Transformational leadership is currently the most popular organizational theory and leadership approach. The evidence supporting transformational leadership is impressive. Transformational leadership has been supported in various occupations (for example, school superintendents, school principals, college presidents, naval commanders, military cadets, ministers, shop stewards, sales personnel, and school teachers) and at various job levels.

A meta-analysis of 49 studies indicated that transformational leadership was positively associated with measures of leadership effectiveness and followers’ job satisfaction (Dumdum, Lowe, & Avolio, 2002). A second meta-analysis of 87 studies indicated that transformational leadership was positively related to leader effectiveness ratings, group or organizational performance, and followers’ job satisfaction and motivation (Judge & Piccolo, 2004). A third meta-analysis of 39 studies revealed that the transformational leadership dimensions of inspirational motivation, individualized consideration, and intellectual stimulation were related to leadership effectiveness in most studies, as well as idealized influence when an organization was in crisis. Moreover, except for the contingent reward dimension, the transactional leadership styles did not result in leadership effectiveness ratings (Lowe, Kroeck, & Sivasubramaniam, 1996).

These results were reinforced by findings from two large-scale studies of transformational leadership in public schools (Lunenburg, 2013b). The first study involved

school superintendents and their followers. The second study included school principals and their followers. In both studies ($n = 1,062$), three of the four transformational leadership dimensions (inspirational motivation, intellectual stimulation, and individualized consideration) were related to leadership effectiveness ratings. Furthermore, a confirmatory factor analysis of the Multifactor Leadership Questionnaire (MLQ) using data from the two aforementioned public school studies supported a three-factor model of transformational leadership, which appears to be consistent with three of the “four Is” proposed by Bass (Lunenburg, Thompson, & Pagani, 2004). The authors of the two public school studies concluded that idealized influence, or charisma, may not be a significant factor in stable school environments. Furthermore, none of the transactional leadership behaviors, except contingent reward, were related to leader effectiveness ratings.

Implications for Practice

There are several important implications that can be derived from the studies of transformational leadership. Previous research has found transformational leadership to be positively related to leader effectiveness ratings, group or organizational performance, and follower job satisfaction and motivation (Bennis & Nanus, 2007; Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Yukl, 2010). However, idealized influence, or charisma, may not be relevant for leaders in stable public school environments (Lunenburg, 2013b).

Some researchers have begun to explore the idea that idealized influence, or charisma, may be more appropriate in some situations than in others (Egri & Herman, 2000; Pawar & Eastman, 1997). For instance, idealized influence is probably more appropriate when organizations are in crisis and need to adapt than when environmental conditions are stable; that is, when dissatisfaction is high and value congruence and unquestioned obedience are needed to ensure organizational survival

(Bulach, Lunenburg, & Potter, 2016a, 2016b; Hinken & Tracey, 1999; Lunenburg, 2010). This line of thinking is consistent with several contingency theories of leadership proposing that individuals must modify their behavior to fit the situation or find a situation that fits their leadership style (e.g. Evans, 1970; Fiedler, 1967; House, 1971). Clearly, studying transformational leadership in turbulent environments might lead to a better understanding of idealized influence, or charisma, as implied also by the studies of Bycio, Hackett, & Allen (1995) and Keller (1992).

However, the other three dimensions of transformational leadership (inspirational motivation, intellectual stimulation, and individualized consideration) may be very important in achieving leader effectiveness. This approach would be in agreement with Bennis and Nanus (2007), who studied 90 innovative leaders in industry and the public sector and found that articulating a vision of the future; emphasis on organizational and individual learning; and the development of commitment and trust were factors that characterized transformational leaders. These results are consistent with the two public school studies reported earlier. Similarly, Yukl (2010) describes transformational leadership as influencing major changes in organization members and building commitment for the organization’s goals. Thus, educational leaders should communicate a sense of where the organization is going, develop the skills and abilities of followers, and encourage innovative problem solving.

Conclusion

Organizational structure is the arrangement of people and tasks to accomplish organizational goals. Organizational design is the process of creating a structure that best fits a purpose, strategy, and environment. *Classical organizational theories* (such as Weber’s notion of bureaucracy) claim that a universally best way to design organizations exists, an approach

based on high efficiency. *Neoclassical organizational theories* (such as those proposed by Likert's system 4 organization) also believe that there is one best way to design organizations. Such an approach emphasizes the need to consider basic human needs. *Contingency organizational theories* (such as Bolman and Deal's four frame model, Mintzberg's strategy-structure typology, Scott's open-systems theory, Senge's learning organization, and Bass's transformational leadership) is based on the belief that the most appropriate way to design organizations depends on the internal and external environment within which they operate.

There are many dysfunctions of the bureaucratic model, including those dealing with division of labor and specialization, uniform rules and procedures, hierarchy of authority, impersonality in interpersonal relations, and lifelong career and loyalty to the organization. New viewpoints are leading to a decline in the use of bureaucratic structure in organizations.

Likert's system 4 grew out of the human relations movement and is the antithesis of the ideal bureaucracy (which Likert calls system 1). The four-frame model, strategy-structure typology, open-systems theory, the learning organization, and transformational leadership are alternative approaches to organizational structure. These approaches integrate several ideas from the classical and participatory management models and other contemporary perspectives on organizational structure.

In the broadest sense, the usefulness of organizational structure in the field is an attempt to create organizations with best administrative styles or practices; increased capacity for organizational learning; greater opportunities for the individual growth and fulfillment of its members; and ultimately organization success.

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