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# From Text to Context: An Open Systems Approach to Research in Written Business Communication

Suchan, J.

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*This article examines open systems thinking as a new lens for the field's researchers to use when exploring written business communication. The transfer or conduit model that the field has traditionally used to describe how communication occurs has, of course, determined what the field knows. An open systems model provides a new way of looking at the field, a lens that integrates concepts such as task, organizational structure, control, and technology into the analysis of written business messages. The article explores the influences these subsystems have on written communication and then develops these systems and subsystems into a series of business communication system maps. These maps or models can serve as springboards for additional research of on-the-job writing situations.*

## **From Text to Context: An Open Systems Approach to Research in Written Business Communication**

Jim Suchan

*The Naval Postgraduate School, Monterey, CA*

Ron Dulek

*The University of Alabama, Tuscaloosa*

A host of organizational researchers contend that business is in the midst of a revolution equal in importance to the industrial revolution (Drucker, 1988, 1993; Handy, 1996; Wheatley, 1992). Forces causing the revolution include massive changes in technology, a global marketplace, and constant, intense internal and external competition that has taken the notion of operating efficiency to a new level of meaning. In response to these changes, managerial roles have changed dramatically, organizational structures have become more flexible, and workers' job tasks have, of necessity, become more fluid. In short, many managers, particularly senior-level leaders, find themselves in a unique business context that Vaill (1989) describes as a "permanent white-water environment" (p. 2). Change and turbulence are the norm.

Management theory has quickly responded to these radical changes in the business environment. Many of the mechanistic dictums that guided management theory in a relatively stable manufacturing environment are no longer viewed as applicable to service and technology-based enterprises. Thus, Chandler's (1962) strategy-structure thesis (strategy changes precede and lead to changes in structure), French and Raven's model of power (1959), and Herzberg's (1968) theory of motivation have been modified by theories such as boundary spanning (Boyett, 1995), business eco-systems (Moore, 1996), empowerment and intrinsic task motivation (Thomas & Velthouse, 1990), and learning organizations (Senge, 1990).

Unfortunately, the same degree of responsiveness to changes in the business environment has not characterized business communication theory, particularly research in written business communication. As Cross, David, Graham, and Thralls (1996) point out, "much research in business communication has been conducted according to an objectivist, or empiricist, narrative" (p. 106). The epistemological assumption behind this view is that the external world is stable, objective, and able to be divided into small, quantifiable units for study. As a result, research designs fail to account for the complex organizational contexts managers operate in and thus fail to provide knowledge useful for researchers or business people.

This article explores a deeper, richer, more complex theoretical framework than that usually employed within business communication research. This framework, labeled *open systems thinking*, can provide a new lens for the field's researchers to use when examining how communities of workers perform their communication tasks, particularly written communication, within varied organizational contexts. Ideally, this model will provide a more powerful theoretical framework for researchers to use when examining organizational communication in the twenty-first century. But to understand the value of open systems theory and grasp its significance for communication research, we must first examine the lens we have looked through for the past one hundred years.

### **Past Conversations About Written Business Communication Research: A Lens of Limited Scope**

Historically, written business communication research has been descriptive, pedantic, and rule-based. Academic experts have told business people how to write by providing them with acontextualized rhetorical principles. Alfred, Reep, and Limaye (1981) provide a detailed analysis of the historical roots of these rhetorical principles. More recently, Carbone (1994) showed how the work of three 19th-century British rhetoricians, Campbell, Blair, and Whately, formed the foundation for the advice about word choice, sentence structure, and style replicated in textbooks and implicit in the research designs of many of today's written communication studies. Even supposedly reader-centered writing strategies, such as the five and seven C's and "you" attitude, are no more than variations of the characteristics of effectiveness that Whately and his colleagues espoused.

Although the field's pedagogical focus on "business writing" derives from a rhetorical tradition, the field's research focus has come, at least for the last fifty years, from a significantly different tradition: that of mathematics and quantitative analysis. Without doubt, Shannon and Weaver's information transfer model has proven to be the prototype

for most conceptualizations of communication research since World War II. This model has served as the core for Baskin and Bruno's (1977) transactional analysis of communication, for Campbell and Level's (1985) black box model of communication, and for Tarkowski and Bowman's (1988) layer-based model of the communication process. Despite the influence of competing theories such as deconstructionism, social constructionism, and speech act, researchers in the 1990s such as Sussman and Johnson (1993), Shelby (1993), and Hansen (1995) still use Shannon and Weaver as the basis for their models of communication.

The influence of the Shannon-Weaver model on business communication research cannot be overstated. This model has not only served as the starting point for most of the field's significant model-building research but has also influenced what we know about communication today. In this latter sense, the model has had a significant limiting effect on knowledge development because it has set the direction for most of the research conducted. It has become, as Kuhn (1980) notes of all scientific paradigms, "an object for further articulation and specification under new or more stringent conditions" (p. 23). Thus, we have continued to analyze, subdivide, and categorize the sender-receiver model in attempts to find and clarify its subterranean parts. In this process, we have effectively "constructed" the complexity of a basic, non-contingent, information processing model.

Although the additional analysis of the Shannon-Weaver model has steered researchers' thinking about communication, its most important influence derives from the mental assumptions that the model has imposed on the field's research. Put simply, the Shannon-Weaver model and its myriad derivations directed business communication researchers into the assumption that business communication is merely the exchange of information between senders and receivers. Further, by implication, this exchange involves one side transferring a "container" of information to another side. Axley (1984) articulates this mental assumption when he notes that depicting communication as information exchange implies that meaning flows through a conduit or pipeline between sender and receiver. Building on the work of Axley, Bowden (1993) recognized that if we depict documents as containers, then we put meaning "into" and extract meaning "out of" such documents. Both assumptions are important and deserve further clarification.

These "transfer," "conduit," and "container" metaphors imply that meaning is located within a document, that it can be passed to a reader via some channel, and that the reader can access the document and extract meaning from it. If researchers conceptualize business writing through such root metaphors, then it is possible to measure "good"

and "bad" writing outside of the contexts in which that writing is used. If meaning is difficult to access, then the document is in a bad container – it does not fit together well (poor organization and document design), is difficult to see into (unclear word choice, poor transitions, tangled sentence structure), or is "lumpy" or poorly shaped (wordy sentences, extraneous information). On the other hand, good containers are easy to access, easy to recognize, and well shaped. They efficiently transfer meaning to readers.

This view of documents as containers has led researchers, as Kuhn predicts, to develop rules to define and determine what makes a container good or bad and metrics to calibrate how well that container carries meaning. One outgrowth of this view has been the dominance of readability formulas to evaluate the comprehensibility and usability of documents (Campbell & Hollman, 1985; Courtis, 1987; Haar & Kossack, 1990; Heath & Phelps, 1984; Schroeder & Gibson, 1990). Researchers have even gone so far as to correlate the readability of a company's annual reports with its financial performance (Courtis, 1986; Jones, 1988; Subramanian, Insley, & Blackwell, 1993). These studies' research designs and their analyses of results reflect the assumptions that meaning exists *within* a document, that a metric can be used to determine if the document itself contains readable sentences and words, that the relative readability of the document can be ranked on some absolute, linear scale – "easy" to "very difficult" – and that the document's location on that scale not only indicates how accessible the document is to a reader, any reader, but also predicts how effective the document will be at achieving organizational goals.

Even researchers who have rejected readability formulas are still steered by this document as container root metaphor. For example, Karlinsky and Koch (1983), Martindale, Koch, and Karlinsky (1992), and Suchan and Colucci (1989) use information recall – the number of correct responses to questions about the information content of documents written in different styles – to measure document effectiveness. This methodology implies that document effectiveness can be measured by readers' relative ability to extract information from a document and thus correctly respond to questions about it.

### **Challenges to Mechanistic Models of Communication**

Yet while the Shannon and Weaver model has influenced most of the research in business communication over the last fifty years, it has not been the only theoretical framework used. Of particular interest is a group of social constructionist theoreticians who have focused on how language shapes and is used by groups to construct organizational reality. This "new wave" of business communication theorists, influenced by Bakhtin (1981), Fish (1989), Giddens (1984), Gergen (1985,

1991), and Rorty (1991), recognize that language in the form of written and social text is never as clear and simple as it appears. Contexts and internal and external reference points always mediate meaning. Even more importantly, as Foucault (1975; 1981) notes, meaning generation is made more complex by the power relations embedded in the language and discussion of everyday life. Further, and as a logical outgrowth of constructionist theory, these researchers emphasize that individuals embedded within specific contexts play an active role in the creation and maintenance of meaning (Berger & Luckmann, 1966; Gergen, 1985, 1991) and thereby recognize that the language of history, class, and culture, and ethnic, and gender experiences constitute people's shaping of reality.

These "new wave" researchers have used a different theoretical lens to understand communication interactions. For example, Thralls and Blyler (1993) have begun to examine organizational contexts to understand how organizational language norms steer written communication behavior, and, implicitly, meaning making and knowledge creation for organizational readers. These efforts to locate business communication research within organizations and to apply richer theoretical frameworks such as social constructionism represent an important first step for removing the sender-receiver blinders that have restricted the vision of business communication researchers. But for these efforts to capture how communication, particularly writing, works in complex organizational contexts, researchers require perspectives furnished by organizational theory. One theory in particular promises to be a particularly useful lens for clarifying the contingent, often enigmatic organizational world in which business people work and communicate. This concept, known as open systems theory, provides a language about organizational context and interaction that should help written communication field researchers gain a more comprehensive contextual view of communication within various types of organizations.

### **A New Lens for a Changing World: Open Systems Thinking**

Von Bertalanffy, a German biologist who emigrated to Canada, is generally regarded as the founder of open systems theory. His 1950 book, *General Systems Theory*, applied the concept to biology and is generally considered the starting point for the model. Boulding (1956) broadened the domain beyond biological organisms, when he argued that systems theory can be applied to virtually any concept that can be defined by a boundary. More recently, Kast and Rosenzweig (1973), Katz and Kahn (1978), Beer (1980), Senge (1990), Lewin (1992), and

Kauffman (1993), among others, have demonstrated how open systems concepts can be applied to organizations.

But what is an open systems model? Most open systems theorists describe a system as a set of two or more elements that satisfies three conditions. First, every element has an effect on the behavior of the whole. Second, the parts of the system, often called subsystems, are interrelated; thus, the way each subsystem affects the whole depends on at least one other subsystem. Third, if one breaks the system into subsystems, then each subsystem has the same two characteristics described above.

Biology, particularly the human body, serves as the root metaphor for much of systems thinking and concretely illustrates the three conditions of open systems theory. The first characteristic, every element affects the behavior of the whole, is shown organically in the way that the heart, lungs, and pancreas affect the behavior of the entire body. The second characteristic, the inter-relatedness of parts, is demonstrated by the fact that if the heart stops functioning the lungs do too. Finally, the third characteristic is evident in the way that the heart can be studied as a separate system with component subsystems of valves, walls, etc.

Given these characteristics, we can see that a system is an inter-related whole that cannot be understood by dissecting only one element. Organizational theorists who practice systems thinking simultaneously view organizations differentially and holistically. Similarly, business communication researchers must analyze more than document readability to understand how writing functions in an organization.

A systems approach toward organizations yields a different kind of knowledge than analysis. Analysis involves dissecting the whole into parts in an effort to understand how something works. Applied to organizations, an analytical approach first sees a business made up of various functional units – accounting, MIS, marketing, and R&D, to name a few. Then this approach continues to break each unit into smaller segments – cost versus managerial accounting, for example – and in the process measures the effectiveness of how each unit functions. Analysis is fundamentally a mechanistic way of examining organizations. On the other hand, systems thinking moves toward a larger framework by determining the major subsystems of the organization, how each subsystem interacts with each other in service of the organization's mission and vision, and what degree of alignment subsystems have with each other. Thus, if analysis can be said to yield "know-how," systems thinking can yield "understanding." Both forms of knowledge are essential.

From a systems perspective, organizations are metaphorically constructed as organisms that must “sustain” themselves or “survive” through adaptation. Organizations adapt by scanning the external environment to determine changes in stakeholders’ needs and then by coordinating and managing the activities of their internal environment to meet these new needs (Morgan, 1986). Thus, companies such as Singer, a name generally associated with sewing machines, becomes a major defense and aerospace contractor, while a company such as Motorola, once known for televisions and radios, becomes a premier provider of cellular telephones. This ability to respond and change to meet the needs of different environments means that systems theory is closely linked with contingency theory – organizations’ need to adapt to environmental shifts (Bennis, 1966; Levinson, 1972; Kanter, 1983). Biological organisms may take thousands of years to adapt to environmental changes; organizations have only years, sometimes months, to make dramatic adjustments. Failure to do so may result in extinction.

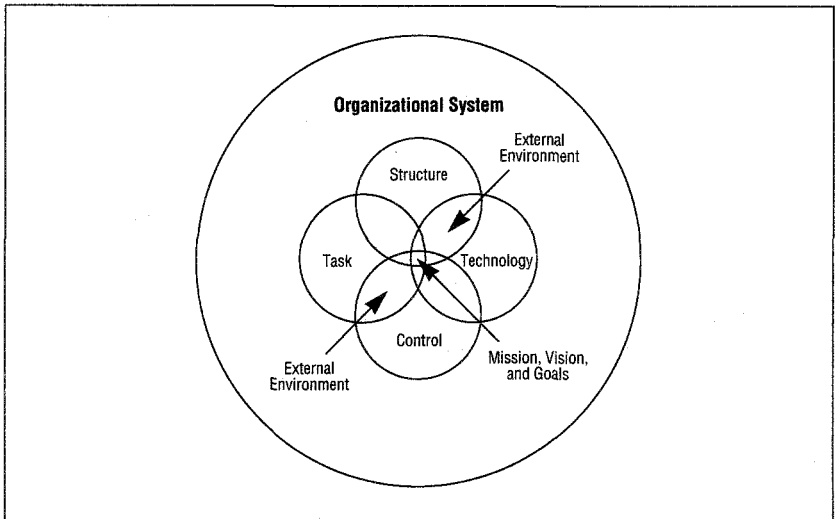
Systems thinking can provide a powerful theoretical lens and a useful language for business communication researchers. It provides a means for us to uncover and examine organizational subsystem relationships that link communication interaction with management and organizational theory. At the very least, a systems thinking orientation will modify and augment our research on business communication so that researchers will begin to recognize and respond to the complex organizational interactions that shape the nature of on-the-job writing. At the very best, systems thinking can redefine the research questions we ask, the research methodologies we employ, and the theories we use to understand how writing works in various organizational settings. The remainder of this article will examine business communication from the perspective of two related systems maps.

### **An Organizational System and Its Four Key Subsystems**

Figure 1 shows a 21st-Century Organizational Systems Map. At the center of the system is the organization’s mission, vision, and goals – its reason for being and what it hopes to do. Surrounding these core, fundamental statements are four key subsystems to be explored in more detail later: task, structure, control, and technology. These are not, of course, the only subsystems available within an organizational system, but they are four of the most commonly studied. The work of Nadler and Tushman (1980), Katz and Kahn (1978), and Morgan (1986) demonstrates that these subsystems provide valuable insights about the interrelationships that occur between communication and organizational systems. It is important to note also that each subsystem is connected to the others and that all are a part of a larger whole, here identified as an organizational system. Finally, coming from outside



the organizational system is the external environment, a force which impinges itself on the system and the subsystems and thereby shapes, influences, and becomes a part of each. Since these subsystems are perhaps most important and certainly the most understudied elements



**Figure 1.** A 21st Century Organizational Systems Map

in the business communication system, we will first briefly define each and then later clarify the role it plays within the context of a proposed Business Communication Systems Map.

### **Subsystem #1: Task**

Task requirements reflect the set of activities that individuals at various organizational levels perform to move toward the system's vision, fulfill the system's mission, and meet the system's goals (Thomas & Velthouse, 1990). Put simply, tasks are jobs that must be done within the organization. These jobs are, of course, influenced by the organizational structure in place, the technology that is available, and the control systems that measure and influence performance.

Task requirements vary by two dimensions: variety and analyzability. Variety refers to the frequency of novel, unexpected situations, problems, and events (Galbraith, 1974). Some jobs, like those of senior managers, appear almost chaotic due to high task variety. Other jobs, such as that of a staff financial specialist, have predictable, day-to-day requirements.

Analyzability refers to the ability to break down the work into steps and procedures. A task such as repairing a downed computer network, even though it may be complex and require extensive knowl-

edge, is highly analyzable because it involves following standard problem-solving procedures. On the other hand, re-framing and implementing an organization's vision is a "low analyzable" task since no single set of procedures will insure task success (Narayanan & Nath, 1993). In fact, in the latter example, procedures that work effectively in one system, such as a highly structured bureaucracy, may prove disastrous in a second, such as a high technology company. Thus, context plays a significant role in task analysis. Galbraith (1974) labeled jobs composed of high variety and non-analyzable tasks as having high task uncertainty and jobs with low variety and highly analyzable tasks as having low task uncertainty. These terms will be used later in the Business Communication Systems Map.

### **Subsystem #2: Organizational Structure**

Structure enables workers to coordinate tasks to produce outputs – i.e., quality products and services – that meet customer needs. A system's overall structure exists within a continuum anchored by two categories: mechanistic and organic (Burns & Stalker, 1961). Systems structured mechanistically have the following characteristics: specialized groups generally organized into departments such as marketing, research and development, and production; many vertical levels within these departments composed of people with increasing levels of specialized skills; formalized job roles defined by job descriptions, organizational rules, and standard operating procedures; and centralized decision making. Functionally (e.g., Bethlehem Steel) and divisionally (e.g., General Motors) designed organizations are mechanistically organized. Systems adopt a mechanistic structure when they assume the environment they operate within will change slowly and incrementally and believe that threats to the organization are predictable and known.

Many manufacturing-based organizations continue to use a mechanistic organizational structure. Likewise, many public sector organizations such as universities, city, state and federal government agencies, and the military service are mechanistically organized. Other industries, such as steel, car production and aerospace traditionally used such a design but are now in the throes of adapting a more organic structure. Further, governmental deregulation has caused telecommunication giants such as AT&T to restructure from a mechanistic to an organic design. Soon-to-be-implemented deregulation procedures in the utilities industry will likely cause a similar shift in this field.

Organic structures are in direct contrast to mechanistic structures. These structures are instituted to contend with dynamic, turbulent environments (Lawrence & Lorsch, 1967). Organizational tasks

in these environments thus have a high degree of uncertainty due to the high rate of new product or new service introduction. Matrix, task force, work team, and network structural designs replace traditional functional specialties in such organizations. These structures consist of people with many different areas of expertise and many different kinds of skills, a structure that allows quick coordination and cross-fertilization of ideas.

Finally, it is important to note that these two structures represent diametrically opposite views of organizational permanence. Functional specialties are traditionally seen as permanent – “set in stone.” The marketing department is a fixture of the organization. Organic structures, on the other hand, are viewed by their members and leaders alike as fluid and changing. Thus, task forces, project teams, and work groups are put together to accomplish a particular purpose, often one of high task uncertainty, then dissolved upon the task’s completion.

### **Subsystem #3: Control**

Control subsystems have two purposes. First, they ensure that appropriate individuals have the information necessary to monitor performance and make decisions. Second, they establish and enforce reward and evaluation standards that steer the behavior of the members.

The structure and job task subsystems are, of course, closely linked with the control subsystem. This linkage means that a control subsystem is often evident in the system’s structure and job tasks. For instance, systems that are in relatively stable environments tend to be structured mechanistically and bureaucratically controlled. Decision making is centralized and workers are carefully monitored, with productivity standards being assigned to particular job tasks. Further, these job tasks are often divided into measurable units.

Systems that participate in dynamic or turbulent environments, on the other hand, are often structured organically, as noted earlier, and have fluid and changing job tasks. As a result of this fluidity, control subsystems must, of necessity, be elastic. In an elastic subsystem, workers are evaluated based on the success or failure of the overall project, and on their contributions to that project. In some cases employers are evaluated more on the overall corporate performance than they are on a particular job performed. Microsoft provides a classic example of a company that uses an elastic control subsystem. Employees of Microsoft are hired for their intelligence and creativity, not for their ability to perform a specific task. The main reward system is a lavish stock option program that financially benefits workers when the company does well and punishes them when it does poorly. Thus, the company’s over-

all performance becomes the key measure of an employee's success, not the given performance of a particular task.

#### **Subsystem #4: Technology**

The influence of technology is broad and far-reaching. It may involve anything from high-tech ceramics and polymers to molecular design and genetic engineering. A technological development in a given subsystem will, of course, have tremendous influence on the larger system as well as on various related systems. The development of the automobile, for instance, affected not just blacksmiths but steamships, railroads, and the construction industry as well.

For the purposes of this article, the discussion of technology subsystems will focus on communication technology, a pervasive influence in today's organizations and a topic of special importance to business communication theorists. In particular, we will examine the rational media choice model as a way of understanding the influence of the technology subsystem and of seeing how this subsystem interacts with the other subsystems already discussed.

Daft and Macintosh (1981) argue for congruence between characteristics of organizations' tasks, the information needed to complete those tasks, and the capability of different communication media to provide that information. Commonly called the rational media choice model, this theoretical framework has been embraced by a number of researchers, most notably Huber (1984) and Watson (1988), attempting to understand how new communication technologies can be effectively used in systems with different structures, tasks, and control subsystems.

This media choice model posits that effective media choice represents a fit between a task's need for information and the inherent richness of the available media to provide that information (Daft & Macintosh, 1981). Media richness is a blend of four criteria: (1) the amount and timeliness of feedback the medium can provide; (2) the capability of the medium to transmit multiple cues, such as gaze, body language, voice tone, and inflection; (3) the use of natural language, particularly metaphors and analogy, rather than numbers to convey subtlety; and (4) the social presence or personal focus of the communicator that the medium can support (Trevino, Daft, & Lengel, 1990). A medium can be located on a continuum ranging from "lean" to "rich" depending on its ability to meet these criteria.

Different levels of media richness are necessary to complete tasks with varying degrees of uncertainty. Non-ambiguous, routine tasks, such as reminding individuals of a prearranged meeting, can be communicated via lean media such as e-mail. On the other hand, high uncertainty tasks, such as revising a company's reward system, require large amounts of unstructured, messy information in the form of perceptions, non-verbal

responses to comments, amount of eye contact, and group discussions that contain metaphors and analogies. Media choice theory indicates that rich media, such as face-to-face meetings or off-site retreats, may be necessary to meet the information needs required by unstructured tasks (Trevino, Lengel, & Daft, 1987). Even new technologies, such as two-way video and audio/video teleconferencing systems, may still not be rich enough to deal with highly unstructured tasks because these systems may filter important non-verbal information and significantly limit an individual's social presence.

### Systems, Subsystems, and a Business Communication Map

Figures 2a and 2b show a Business Communication Systems Map with the four key subsystems superimposed over traditional business roles. Figure 2a shows that each subsystem goes through each traditional job role. Figure 2b emphasizes the complex, interrelated nature of the subsystems and the job roles. The map invites interesting insights about business communication, especially with regard to workplace writing. Even more importantly, the map elicits important research questions that deserve further examination in order to gain new insights about the complex nature of the business communica-

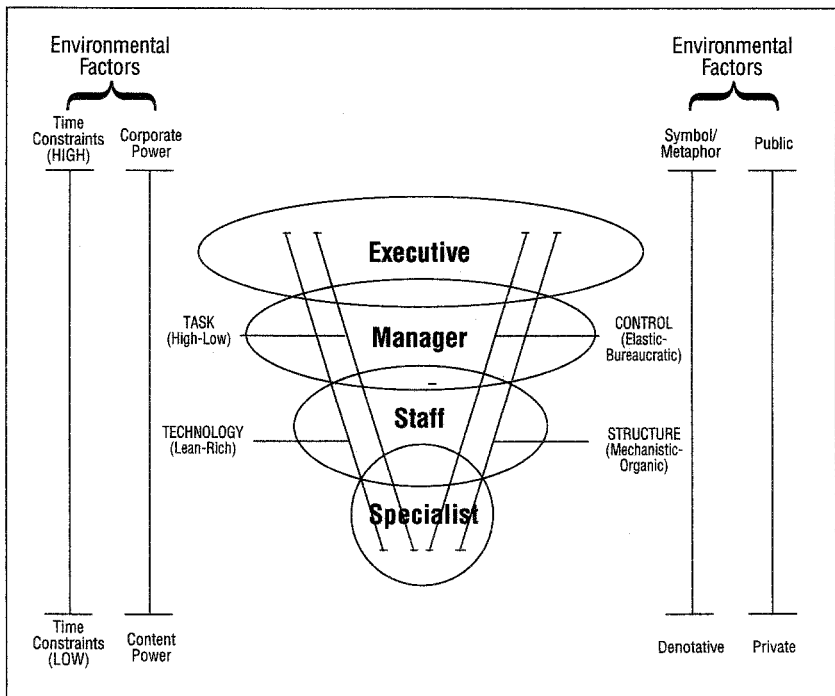


Figure 2a. A 21st-Century Business Communication Systems Map

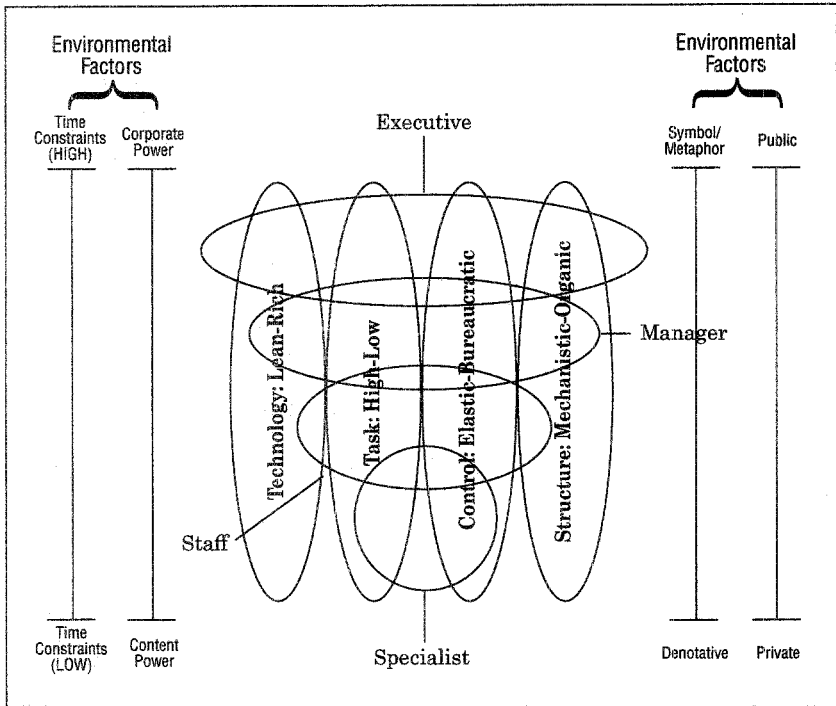


Figure 2b. A 21st-Century Business Communication Systems Map

tion field. For purposes of clarification, we will first provide a preliminary overview of the system, then examine ways the four previously defined subsystems function within and influence business communication within the system. Finally, we will raise some key research issues that need additional examination for the map to be effective and clear.

First, and most importantly, we need to recognize that the entire figure is a business communication system whose purpose is effective communication. The four subsystems that operate within the system, then, have a similar purpose – to help the overall system communicate effectively. For our purposes, effective communication means “getting a job done” with and through people (Dulek & Fielden, 1990). This process involves some degree of communication clarity, but it may also involve some levels of ambiguity (Suchan & Dulek, 1990). And, of course, any number of internal and external variables may influence the effectiveness of the process.

The four horizontal ovals on the map depict organizational job roles. The shape of the ovals represents the content depth necessary to fulfill each role. Thus, the role of executive is wide but narrow while the role of specialist is narrow but deep.

The scales outside the ovals are environmental communication factors that are embedded within the overall system. The scale format of these environmental influences shows that they change based on where the communication occurs. The first of these factors, time constraints, suggests that such constraints are generally higher at the executive/manager level than at the staff and specialist level. This constraint is of particular importance to a business communication systems map since it significantly influences document generation. In a nutshell, because of time constraints and the structured nature of tasks, document generation is more common in specialist and staff functions while delegation and review of these documents is more common in managerial job roles.

The second environmental factor, power, also changes depending on organizational context factors. At one end of the scale, power – particularly in organizations with mechanistic structures and bureaucratic control systems – derives more from position (e.g., legitimate power) than from expertise based on content knowledge. At the other end of the scale, power is derived more from perceived expertise or access to important information. This perception of power often occurs in organically structured organizations with flexible control systems. In essence a person's specialty makes him or her credible, which provides an important power base to influence others. For example, an accountant may have significant and far-reaching organizational influence and hence power on issues related to financial performance and control.

The third extrinsic factor is the difference between communication that is primarily denotative versus metaphoric and symbolic. As we will examine in more detail when we relate organizational subsystems to communication practice, people filling staff and specialist job roles must use context appropriate denotative language to communicate the results of their assigned tasks. In short, they must write and present results "clearly" to associates within their function or area of specialization as well as to those outside their job roles. On the other hand, people filling high-level managerial and executive job roles often are required to use metaphor and to be aware not only of the symbolic nature of what they say but also how they say it. For example, executives may need to use metaphors, stories, or analogies to clarify to a broad-based audience new work values necessary for the organization to adapt to changing environmental conditions. Furthermore, executives may need to use rich media (various forms of face-to-face communication) to symbolize their commitment to this change. For executives and high-level managers, message content and media symbolism may be inseparable.

The last factor, public-private, is closely linked with the denotative/metaphoric and symbolic. Staff and specialist communication gen-

erally has a limited audience; that is, it usually involves one-on-one or team-to-team communication between select individuals. Managerial and executive communication, on the other hand, is more public: its audience is larger. As a result, what is written or said in these latter job roles is scrutinized much more closely for innuendo and implications.

Alan Greenspan, Chairman of the Federal Reserve, provides a classic example of the difference between the denotative/metaphor/symbol and the public/private factors of communication. In essence, if a staff specialist within the Federal Reserve comments that stock prices seem high, the stock market passively digests and ignores the comment. The same statement from Mr. Greenspan, on the other hand, can cause the market to plummet.

These extrinsic factors are an important part of the business communication system and deserve fuller exploration within the business communication research arena. Such efforts may eventually prove that these factors are actually additional subsystems that need to be analyzed as a part of the larger business communication system.

### **Subsystem Influences on Oral and Written Business Communication Task Subsystems**

The four key subsystems established within the open systems literature provide a better understanding of the roles written and oral communication play within the Business Communication Systems Map.

#### **Task Subsystem**

Job roles – i.e., executive, manager, staff, specialist – often involve predetermined tasks which, in turn, influence preferences for written versus oral communication. Further, these different job roles can determine how these written and oral messages are structured. Job roles with high task uncertainty, for instance, such as those at the executive and managerial level, involve significant levels of creativity and are therefore much less apt to be able to be handled by a prescribed formula. On the other hand, job roles involving low task uncertainty are often much more repetitive and involve significantly less creativity. Thus, communication tasks performed at these levels are able to be handled through a formulaic approach. A brief examination of the communication tasks in each job role will provide additional insights about the communication tasks within each job role.

Mintzberg (1973) found that managers and executives prefer information from oral media rather than from documents. Most managers and executives, according to Mintzberg, view reading internal documents and mail as a burden and generate few such documents on their own.



A particularly interesting finding of Mintzberg's was that executives valued, indeed depended on, "soft" information, particularly hearsay, speculation, rumor, and gossip. As a corollary to this observation, he found that executives spend 78% of their time talking with others, not only to gather soft information but also to communicate vision, values, and goals. Kotter's (1982) research validated Mintzberg's findings. He found that executives spend 76% of their time in face-to-face situations where they ask questions, motivate, coach, mentor, and tell stories. Finally, and more recently, Deutschman (1992) examined executives' time management practices and discovered results that reinforced these findings. In essence, Deutschman found that despite development of e- and voice-mail networks, executives still give top priority to having access to people and people's having access to them. In many respects, then, executives spend a significant part of their days interacting in non-task directed situations that establish ties, interweave contacts, and provide "lubrication" for future relations.

Finally, it is important to note that most executives and managers report spending comparatively little time generating written documents. Deutschman (1992), for instance, quotes one CEO: "A manager who frequently shuts the door to get work done isn't doing his or her work" (p. 140). Writing tasks, then, are often delegated to staff personnel, with the managers serving more as managers of writing and editors rather than as creators of documents.

Low task-uncertainty roles generally involve more "hands-on" writing. Staff personnel report doing significant amounts of writing for others to sign. Specialists report doing most of their writing in the form of specialized content. Often these people describe their writing more as technical rather than as business or managerial communication.

Interestingly, while personnel in both staff and specialist roles acknowledge having to write documents that others receive credit for having written (Dulek, Motes, & Hilton, 1997), none of these groups – neither the executives and managers who sign the writing nor the staff specialists who write the documents – perceive any ethical barrier to having an employee sign a document that he or she never wrote. The only scenario in which this action was ever perceived as even being possibly unethical was when the upper-level employees signed a document without having read it. In all other situations, those involved in the activity saw no ethical dilemmas.

### **Structure Subsystem**

No one job role can coordinate all communication within a system. Therefore, structures that support communication interaction patterns must be designed, institutionalized, and adapted. Sometimes these patterns develop by intention, that is, by oversight from particular job

roles; at other times, they develop haphazardly based on need, convenience, or location. Whatever the source, these structures significantly affect written and oral communication.

Mechanistically structured systems have formalized job roles and large support staffs whose primary purpose is to move information up and down the hierarchy. This type of system responds to increased information processing demands by adding staff layers to manage the paper flow (Galbraith, 1973). Executive support staffs provide lower level managers with a steady stream of information about new policies, rules, product innovations, and reports on the general health – i.e., profitability – of the organization; HRM specialists disseminate information about training opportunities and changes in benefits; financial analysts provide decision makers with return on investment data; and departmental staff assistants provide reports on departmental operations. Thus, writing is the medium of choice within mechanistic structures, with specialists and support staffs conducting most of the writing tasks. Further, writing is the appropriate medium since it can best communicate information that will not be changed or distorted by the nuances that accompany oral communication. The measure of written effectiveness in such structures is, of course, clarity and efficiency.

Systems that use organic structures do so, as noted earlier, as a means of handling the turbulent, dynamic environment in which they find themselves. This environment, which includes a need to process large amounts of information rapidly, calls for a different set of communication patterns than those used in a mechanistic structure. Such systems therefore often depend more on oral than on written communication, although e-mail often proves to be a viable middle ground. This emphasis on an oral mode makes particular sense since problems high in task uncertainty require rich face-to-face collaboration to develop a shared understanding of the nature of the problem, team members' viewpoints (Nonaka & Takeuchi, 1995), and to get "buy in" for the plan (Vroom & Yetton, 1973).

Written documents do, however, continue to exist within organic structures, although their form often seems significantly different. For example, group records often exist in the form of meeting minutes, agendas, brief summaries, flip chart notes, copies of presentation slides, and e-mail exchanges. These documents form a kind of sketchy history of the group. Further, since these documents are often composed collaboratively, one could speculate that collaborative writing may be the norm in organically structured organizations.

Finally, by definition, subsystems interact with and influence each other. An example of the important influence of such interactions can be found in an analysis of the on-going interaction that occurs between

the task and the structural subsystems. Put simply, a system's tasks and the job roles that underlie those tasks significantly influence structures and the communication patterns they support. Specifically, in systems with high task uncertainty – i.e., tasks are varied and difficult if not impossible to analyze – decision makers must obtain, process, and communicate large amounts of ambiguous, equivocal information. In such situations, managers and executives alike must ensure there are appropriate structures such as meetings, presentations, and casual interactions that facilitate information gathering and organizational sense making. If these structures are not in place, information bottlenecks and overload will occur (Galbraith, 1974). Even more damaging, as Weick (1995) notes, the absence of such structures may cause organizational members to overlook interaction opportunities and thereby not forge a common interpretation of this equivocal information.

On the other hand, in systems with low task variety, decision makers process primarily unambiguous information. The information is unambiguous because tasks can be divided into subtasks and the precise functioning of each can be defined by rules, procedures, and plans. Obviously, a different structure is needed to support the communication patterns and interactions required to process this type of information. In short, e-mail and posted messages can replace meetings and water cooler discussions.

### **Control Subsystem**

Systems that are bureaucratically controlled tend to be document-driven. Staff specialists generally gather data and write descriptive documents that are passed on to mid-level managers. These managers aggregate the data and reports and generate their own analytical documents that are passed on to senior management where the information is treated as one piece of data. Decision making at the apex of any organization is unstructured because there is no established procedure that executives can reliably use to formulate and implement effective strategy (Mintzberg, 1979).

Document content within control subsystems often deals with plans, goals, new rules and regulations, changes in operating procedures, new programs and strategic direction. All such documents, in one form or another, are ultimately directed to maintain control of the system. Thus, embedded within the content of documents, including the direction of the message (i.e., up or down in the organizations) and the communication medium chosen (oral versus written), is senior management's exercise of power that reconfirms the existence and validity of the current control system.

Elastic control subsystems are the opposite of bureaucratically controlled subsystems. Whereas bureaucratic controls link status and power to control of information and decision making, elastic subsystems seek to decentralize power and spread information across a larger number of individuals. "Empowerment" is a frequently used metaphor.

Elastic control subsystems encourage a wider variety of communication systems. Documents are still used, but primarily for purposes of historical and legal records. Meetings, briefings, presentations, dialogue, and other forms of oral communication are much more prominent, and the structure of such events is less formalized and regimented than in bureaucratic organizations.

It is important to add here that, as Mintzberg (1973) notes, oral communication is not a panacea for all the communication problems faced in elastic control subsystems. Specifically, although oral communication is timely, rich, and congruent with the decision-making tasks the organization faces, it only exists or is "stored" in people's brains. Consequently, the information and its interpretation are often lost because each is not written down or is captured sketchily in meeting minutes or outlines of conversations. Thus, the organization's information and decision making data base primarily exist in the minds of its employees, not in documents or computer files. As a result, conveying the background of decision tasks from one group to another is difficult. The only effective way to pass on such information, we were told, is for previous group members to do a "collective mind dump" onto the new group members.

### **Technology Subsystem**

The factors that make up the rational media choice model – task uncertainty, individuals' processing needs, and media richness – echo variables discussed in the task, structure, and control subsystems. For example, from the perspective of the task subsystem, senior and mid-level managers may use e-mail and even voice mail systems to "get the word out" faster than traditional hard copy documents, and they may receive reports via e-mail; however, these managers' job roles, as defined by their task requirements, demand extensive use of face-to-face communication. For them, therefore, to attempt to lead an enterprise or even a department from an office using a PC with video teleconferencing capabilities would be professional suicide.

Further, if the structure and control subsystems are aligned with environment, then mechanistic and bureaucratic environments can generally be said to require leaner media while organic and elastic organizations require richer media. Leaner media such as e-mail often prove sufficient to transmit information up and down the bureaucratic hierarchy so that the organization can perform its routine tasks. In con-

trast, organic organizations require richer media to provide organizational members with the messy, verbal information required to gain consensus about the nature of unstructured tasks.

### **New Visions from a New Lens: Implications of an Open Systems Approach**

Mapping and exploring business communication from an open systems perspective may cause us to radically shift our assessment of the role of documents in organizational settings. The open systems concept suggests, after all, that the singular, isolated text approach – i.e., letters, memos, and reports – may not be central to understanding how writing works within organizations. What is central, as Stratman and Duffy (1990) observe, are the shifting organizational contexts (contingency theory is embedded within open systems thinking) within which all organizational writing is situated.

The specific value of an open systems approach is that it provides a concrete theoretical framework – the task, control, structure and technology subsystems and their interrelationships with each other, the whole system, and the external environment – that can cause us to see and thus interpret differently the complex contexts that affect on-the-job writing. We believe such a framework is particularly important for researchers doing ethnographic studies and using naturalistic inquiry or participant observation in their research designs. In short, the new language of open systems thinking can help researchers see relationships to which they may previously have been blind.

Furthermore, systems thinking language and its metaphors of interrelationships, system dependencies, subsystem congruence, and so on can begin to supplant the mechanistic conduit metaphors inherited from the positivistic tradition and reinforced by the Shannon-Weaver communication model and its many spinoffs. The result may be that more researchers will recognize that we must do our work within organizational contexts using research designs that are sensitive to the subsystem variables systems thinking highlights, that students as research subjects and the overly simplistic research designs used to gather data from them provide us with limited information about organizational writing, and that we do not need another article entitled “Five Things to Know to Write Effectively.” Without powerful theories to guide our understanding of workplace writing, the “know how” we claim that is our field’s strong suit may have no validity and thus, which is so often the case, our pedagogical work will be ignored.

Finally, open systems theory can link our work to a well developed and rapidly growing body of contextually based research in organizational behavior, organizational development, and complex organizational change. This research, which focuses extensively on

environmental turbulence in the workplace caused by the shift from a postindustrial to an information economy, can provide us additional theories complementing systems thinking that will better enable us to understand how changes in technologies, structures, job roles, and control systems affect communication practice, and in turn, how communication practice reinforces these subsystems. Furthermore, by conducting business communication research that has a strong, theoretical underpinning recognized by colleagues in management, strategy, organizational behavior, finance, and other areas, we may gradually be able to move the field into the academic mainstream and shed the basic skills yoke that we have been burdened with for so long.

As noted behavioral scientist Kurt Lewin (Marrow, 1969) stated, "there is nothing as practical as a good theory" (viii). Open systems theory represents one good theory that can sharpen our thinking about the changing nature of written communication practice in 21st-century organizations.

#### NOTE

Jim Suchan is an Associate Professor of Management at the Naval Postgraduate School.

Ron Dulek is a Professor of Management and Head of the Management and Marketing Department at the University of Alabama.

Send correspondence to Ron Dulek, The University of Alabama, Department of Management and Marketing, Tuscaloosa AL 35476 <rdulek@cba.ua.edu>

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