CHAPTER 3

Communicating with Technology

In the last decade, we have gone from a connected world to a hyperconnected world. In the hyperconnected world . . . managers and entrepreneurs everywhere now have greater access than ever to the better and best people, robots and software everywhere.

—Tom Friedman, author, *New York Times* columnist, and three-time Pulitzer Prize winner

If you spend as much time as most managers do creating and responding to e-mail, texting your staff, blogging, participating in webinars and virtual meetings, and compulsively checking your smartphone at stoplights, you may well assume that developments in technology will determine the future of business communication. Where does a discussion of technologically mediated communication begin? Technology is changing so quickly that it sometimes seems impossible to get a focus on the topic. Forty years ago, a communication theorist stated, "Communication is essentially a social affair . . . but life in the modern world is coming to depend, more and more, upon 'technical' means of communication, telephone and telegraph, radio and printing."[1] That observation was prescient.

Think about all the technology that has developed in the past fifty years. Only a couple of generations ago, the communication revolution meant the long-distance telephone. Thirty-five years ago, the discussion of telecommunication included the definition of *floppy disk* and what was meant by a personal computer. Thirty years ago, many textbooks like the one you are reading would have dedicated much space to an explanation of the difference between hardware and software, the purpose of a modem, and how word processing could soon replace the electric typewriter. Fifteen years ago, managers did not routinely look at a candidate's Facebook page as a step in the hiring process. Ten years ago, businesses were unaware of the power of Twitter for reaching out to their market. And just five years ago, no one had a tool like the Wall Street Scanner, an app for a handheld device that synthesizes the stock markets, social networks, headlines, and corporate sites, to instantly report on economic trends and the forecast for the next day.

Today, electronic communication channels are an integral part of our work lives. The whole rationale for reliance on technology is increased efficiency and productivity, and recent research does provide some evidence to support this assumption. But technology is not merely a beneficial tool, it's a force that must be constantly reassessed. Technological innovation is not always good merely because it is innovative. It's a thin line to walk, and it requires some creative thinking to stay balanced between technological aptitude and overkill.[2]

STOP AND THINK

1. How often are you interrupted by incoming e-mail, instant messaging, or text messages at work?
2. How does that impact your productivity?
3. Given that 28 percent of a typical office worker's time is spent being interrupted, to what extent does technology help versus hinder efficiency?

Given the speed with which business communication technology changes, it is unrealistic to assume that this chapter will accurately reflect what is going on both when I wrote it and when you read it. So instead of describing "current" practices, the chapter focuses on *best practices*, time-honored principles for using technology in the workplace. Reading it will help you develop a framework for making strategic decisions in the use of whatever technologically mediated communication tools are available at that time.

A FRAMEWORK FOR USING TECHNOLOGICALLY MEDIATED COMMUNICATION

The decision to use a telephone, e-mail, text message, or teleconference can be complicated because of the many variables involved. To understand these variables, refer to Chapter 2 and the discussion on strategy. With technologically mediated communication, a technological channel transmits the communication. Thus, the main difference is in the channel. However, as the strategic communication model in Chapter 2 indicates, every other variable is also affected by the technology. Four concepts help us understand the use of technologically mediated communication: *bandwidth, perceived personal closeness, feedback*, and the *symbolic interactionist perspective*.[3]

Bandwidth

Communication occurs along five sensory channels: visual, auditory, tactile, gustatory, and olfactory.[4] Bandwidth is the information transmission capacity of the available sensory channels. Face-to-face communication between two people within an arm's length of each other has a wide bandwidth because it can use all five channels. When a manager first meets a job applicant, the two people usually shake hands. They are concurrently sharing visual, auditory, tactile, and olfactory cues, so this communication has a wide bandwidth.

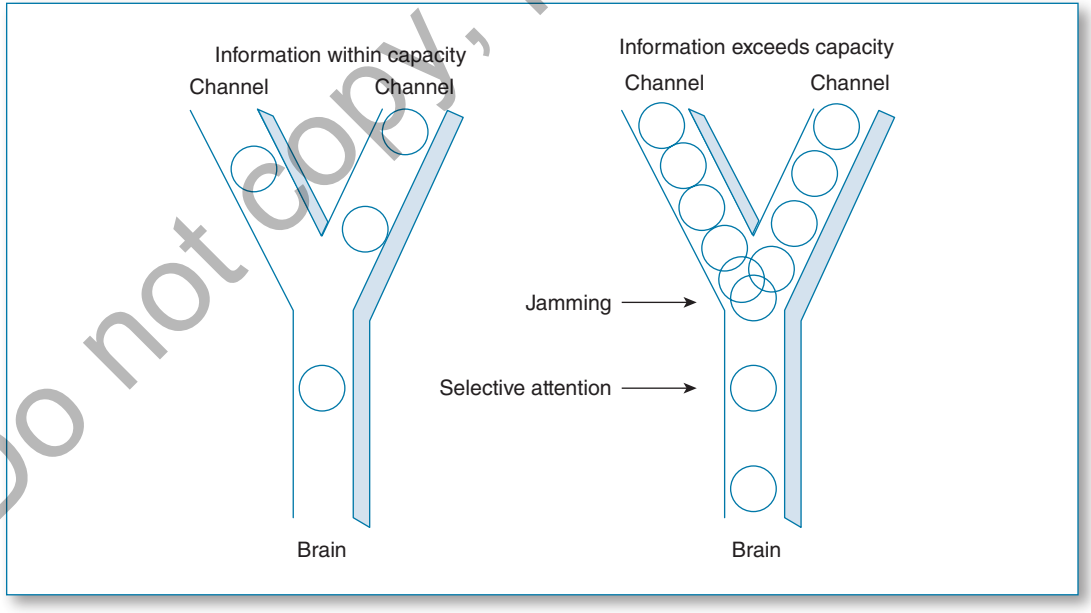
Mediated communication generally omits one or more of the channels. For instance, a videoconference omits tactile and olfactory channels or cues, while the telephone omits tactile, olfactory, and visual cues.

How many messages sent via different channels can the mind comprehend at one time? This theoretical question has plagued communication researchers for centuries, but it remains a relevant question when considering technologically mediated communication. To help understand this question, imagine a Y. Assume that each communication message or bit is a ball that approaches our brain—the base of the Y—along an arm of the Y. The arms of the Y are different communication channels. What happens if both balls approach the intersection of the Y concurrently, but there is room for only one ball? Information jamming will occur. In terms of information theory, selective attention results, so the receiver pays attention to only one of the information bits while ignoring the others. In other words, the mind decides which ball can proceed to the base of the Y. This process is diagrammed in Figure 3–1.

The goal is to have as much information as possible processed in the central nervous system without jamming. How many cues from different sources can be processed simultaneously?[5] This leads to the concept of between channel redundancy (BCR). BCR results in multichannel communication when information is shared among auditory, olfactory, tactile, gustatory, or visual channels.

Consider meeting a job applicant. When auditory and visual channels transmit identical information, BCR is complete. This would occur when the person dresses neatly and

Figure 3–1 Information Processing



speaks in an articulate, precise manner. Both of these cues are complementary because they signal that the person is a professional. BCR is mixed or incomplete when different channels transmit conflicting or incongruous information. BCR is zero when each channel transmits completely different or contradictory information. Other things being equal, information transfer is theoretically most effective when BCR is complete. Interference is highest when BCR is zero.

Information theory has not been able to totally determine what information humans process or how they process it. However, several conclusions can be stated. First, we can process only a limited amount of information. Second, certain types of information overpower other types of information.[6] Both of these conclusions have powerful implications for strategic managerial communication. Managers must determine how much information can be valuable in various situations. Only valuable information—cues—should be provided so a person's information-processing capabilities are not overpowered with useless cues.

The choice between video networking, videoconferencing, and audio conferencing indicates why this is important for technologically mediated communication. Management may be tempted to use video networking because it provides real-time interactive video, audio, and data sharing via the Internet. Videoconferencing provides visual cues in addition to audio cues. But the cost of setting up online collaboration tools and videoconferences is much higher, and it may not be justifiable. Sharing data and files in real time during a meeting may not be important. Even visual cues may be of little value or even distract from the critical audio message that can be provided with a simple, audio-only teleconference.

On the other hand, managers typically should not choose communication channels with narrow bandwidths for emotional messages. Text messaging an employee that she has been terminated or e-mailing an expression of sympathy for the loss of a loved one are "tech-etiquette" blunders that are becoming all too common. And the broadest bandwidth channel, face-to-face, may be crucial for effectively communicating with key clients, especially in certain cultural contexts, as discussed in Chapter 11.

If circumstances require the use of a narrow bandwidth channel to transmit a sensitive message, managers should do their best to offset the consequences. A recent example was provided by a major corporation that used e-mail to notify four hundred employees of layoffs. While initial reactions to that channel choice for termination notices may be critical, a closer look shows that the company chose e-mail because it was efficient and practical for the mass announcement. In addition, company officials had held a series of meetings (a broad bandwidth channel) during which they explained the method they would use. Employees also could use the company intranet site to find answers to their questions.[7] Thus, managers should consider using multiple channels of varying bandwidth for important, emotional messages.

In addition to the concept of bandwidth, the theory of *electronic propinquity*, or perceived personal closeness, provides a framework for understanding technologically mediated communication.

Perceived Personal Closeness

Participants in the communication process can feel either attached or removed from each other. Two people in the same room may feel miles apart, whereas those on different

continents may feel close to each other. Many factors such as the history of the two people as communication partners can affect this feeling of closeness. Of particular concern here is how media affect the feeling of closeness, or propinquity.

Much research indicates electronic media affect the extent to which people feel close to each other. For instance, some people are much more apprehensive about leaving voicemail messages than others and feel uncomfortable even when making a simple call.[8] When this apprehension exists, telephone conversations will not help a person feel psychologically close to another. Indeed, the psychological distance could be increased because of the accompanying apprehension. Some suggest it is the inability of the communicator to read nonverbal communication that causes this apprehension.[9] Others, however, may prefer and enjoy some form of technology over face-to-face communication. Some people actually warm up to the technology. An example is young people's reliance on their smartphones for friendly interactions. When a person feels warm to the technology, psychological distance may be decreased.

Telecommunications may actually increase a person's sense of closeness. One study found that participants in certain situations enjoyed group meetings more when mediated by technology than when everyone was physically present.[10] Another example of preference for technology as an interpersonal communication tool is the use of text messaging. Instant messaging (IM) has become the long-distance communication medium of choice for young adults. More similar to an electronic conversation than e-mail, IM is used by nearly three-quarters of teens online, and most use it every time they log on.[11] More relevant to this discussion is the fact that about a third of today's 200 million IM users worldwide are doing it at work.[12] Text messaging is also popular among business professionals. Smartphones allow remote e-mail access and web browsing. Some managers prefer texting coworkers rather than e-mailing or leaving voicemail messages because they ensure quick, brief responses especially when they are in the field rather than in their offices.

Interestingly, voicemail is becoming obsolete as an interpersonal communication tool. While a human voice may seem to convey personal closeness more successfully than text, the number of steps required for dialing in and checking voicemail messages, recording the phone numbers, redialing, and leaving a return message may be more trouble than it is worth. Research shows that employees take longer to reply to voice messages than other types of technology—more than 30 percent of voice messages are not retrieved after three days. By contrast, 91 percent of people under 30 respond to text messages within an hour, according to a 2008 study. But substituting text for talk is not just a generational phenomenon. Even adults over 30 are twice as likely to respond within minutes to a text as to a voicemail message.[13]

In summary, the impact of electronic media on feelings of personal closeness has not yet been adequately determined. But there is some evidence for an inverse relationship between technology use and closeness. Preliminary research on this question indicates that overuse of technology does indeed affect interpersonal relationships. For example, a research team led by Brian Wansink at Cornell University found that children and adults who avoid or are denied eye contact are more likely to suffer from feelings of isolation and to exhibit antisocial traits and other psychological problems. The researchers hypothesize that people who spend more time looking at their mobile devices than at one another suffer impaired emotional intelligence and social facility.[14]

Managers need to determine the extent to which perceived personal closeness is important in different situations. Also, to what extent do various types of technology affect this closeness between the sender and receiver? If this question is not addressed, inappropriately used technology designed to enhance managerial communication may be destructive rather than constructive.

In addition to bandwidth and electronic propinquity, we should consider a third factor, *feedback*, when discussing technologically mediated communication.

Feedback

Feedback binds the sender and receiver together so they truly communicate with each other. Feedback is always present if it is sought. To understand fully the implications of this statement in relationship to mediated communication, it is important to consider both bandwidth and perceived personal closeness.

Mediated communication may reduce channels for obtaining feedback. When using the telephone, we do not see the facial expression of our communication partner. Thus, feedback is reduced. Also, when managers are not totally comfortable with a particular medium, they may ignore potential feedback cues. Consider a conference call involving five people at five locations. Such a call requires a different set of skills than a normal conversation, and the manager may not be totally comfortable with the situation. Not only are different skills required to monitor feedback, but the manager's anxiety may also reduce attention to feedback.

Time is related to feedback. The feedback cycle can be dramatically shortened with technology. For example, an Arco purchasing manager sent a rather long contract via fax to a vendor. The manager used fax because the contract was long and complex—too long to send via e-mail. Immediately after sending the contract, the sender went to another person's office for a meeting. On returning, the manager checked the voicemail system and found that the receiver of the contract called to indicate it had arrived and was being reviewed. About two hours later, the purchasing manager received an e-mail indicating how the vendor wanted the second paragraph changed. This was all done in a matter of a few hours even though the transaction occurred in two cities a thousand miles apart. Also, no busy telephone lines interrupted the process and no administrative assistants were required to draft letters.

Videoconferencing affects feedback in several ways. First, although visual feedback is present, it is reduced. Also, it is not possible to make eye-to-eye contact. However, the time required to arrange for the communication is greatly diminished. The major advantage, and the ultimate reason that many companies use videoconferencing, is that travel time for meetings is reduced.[15] A meeting with participants miles apart can be arranged without accounting for travel time, an important consideration for geographically dispersed members of an organization.

At the same time, the reduced time for feedback can cause problems. Although, according to information theory discussed earlier, we have limited capabilities to process information, managers may be pressured to decipher information and respond quickly just because the technology allows it. Imagine a manager who receives about two hundred

e-mails and text messages daily. These media represent speed and responsiveness. But constant interruptions such as e-mail alerts may result in stress and overload. Recent research examining the effects of interruption overload and continuous partial attention is alarming. Higher cognitive functions, starting with decision making, can be impaired. Fragmentation of attention also appears to impede creativity.[16] Multitasking, rather than a step toward efficiency, apparently prevents us from focusing on anything in a significant way.[17] Managers need to be aware that continuous availability for feedback may have damaging consequences on their thought processes.

The impression that a manager must respond quickly brings us to our discussion of the fourth concept that helps us understand technologically mediated communication, *symbolic interactionism*.

A Symbolic Interactionist Perspective

Symbolic interactionism is a concept that can be used to explain sociological and psychological phenomena. In the imagery of symbolic interactionism, we view society as a dynamic web of communication. Thus, society and every organization in which managers function is an interaction. An interaction is symbolic because, through their interactions, people assign meaning to things and events. Over time, many symbols evolve within the organization and take on an agreed-upon meaning.[18]

STOP AND THINK

1. Pretend that a close coworker has just suffered the loss of a family member. You wish to express your condolences. Which channel will you use: a paper sympathy card sent by snail mail, an e-mail, a phone call, or a post on the coworker's Facebook page? Why?
2. Which channel do you think the coworker will appreciate the most? Why?
3. What is the symbolic value of each channel?

The media that managers choose to use for communication may be based partially on symbolic reasons. Some argue that managerial communication behavior represents ritualistic responses to the need to appear competent, intelligent, legitimate, and rational.[19] For example, a face-to-face medium may symbolize concern or caring. Conversely, the manager who congratulates a subordinate on twenty-five years of service with an e-mail message may unintentionally communicate a lack of personal concern. A handwritten note or a special card would symbolize more personal warmth to some people.

A comprehensive study of managers and their communication media indicates that channel choice was highly symbolic.[20] Managers interviewed in this study said they choose the face-to-face channel to signal a desire for teamwork, to build trust or goodwill, or to convey informality. Both face-to-face and telephone communication symbolized urgency, showed personal concern, and signaled deference to the receiver who preferred that medium. By contrast, written media were thought to show authority, make a strong impression, and be legitimate and official. Written media were also used to get attention and to comply with protocol.

The results of this study indicate that managers should not simply rely on the channel they feel most comfortable with when communicating; they should consider its symbolism.

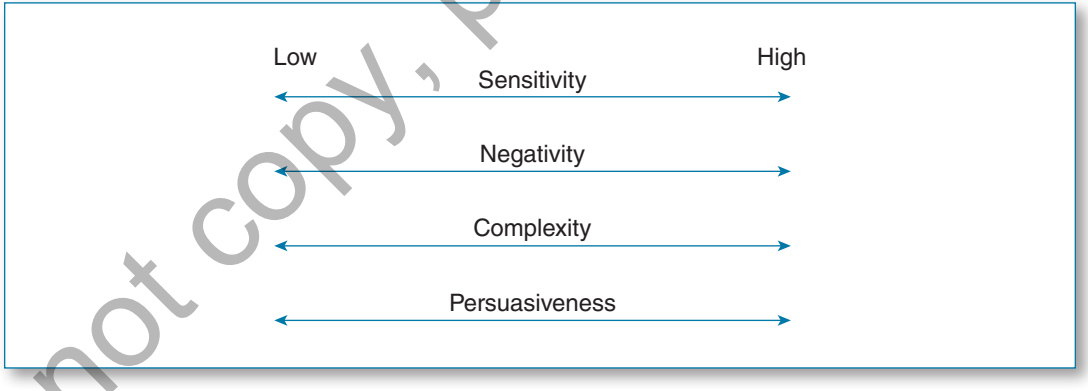
Here is a true story that demonstrates this principle. There once was an accounting department manager who relied solely on sticky notes for communicating within his department, to the extent that he would silently tack the note onto a subordinate's computer monitor, even while the subordinate was sitting right in front of it. How do you think the employee felt about the manager and his message?

In summary, managers should consider four factors when deciding on the most effective and efficient use of mediated communication: bandwidth, perceived closeness, feedback, and symbolism. The choice of technology has become rather complicated, and it is difficult to generalize from one situation to another. But certain general conclusions can be stated.

MATCHING TECHNOLOGY AND THE MESSAGE

The discussion so far has emphasized how the channel may vary when communication is mediated by technology. Now consider matching the message and the technology. Not all technology is appropriate for all types of messages. To facilitate this discussion, messages are categorized along these continuums: sensitivity, negativity, complexity, and persuasiveness (as illustrated in Figure 3–2).[21] The challenge is to consider the message and how it fits into the various categories; then, match it with the appropriate technology.

Figure 3–2 Message Types



Message Sensitivity

When considering technology, managers must determine the extent to which the message is sensitive. A sensitive message is one that evokes an emotional reaction from the receiver. Neutral messages convey information that readers process and respond to intellectually but not emotionally. Receivers will not become upset with neutral messages, but neither will they become ecstatic or pleased.

Sensitive messages should usually be communicated in face-to-face settings to increase the personal element. An extreme example is when a US soldier is killed in battle. A military representative first informs relatives in a personal meeting. Telephone calls are not considered an option. An example at the other end of the sensitivity continuum is that a regular meeting's agenda could be circulated by e-mail, and a meeting reminder could be posted on employees' calendars using Microsoft Outlook. Face-to-face interaction would be an inefficient channel for this routine purpose.

What if it is not possible to communicate a sensitive message face-to-face? Here, the technology with the widest bandwidth should be used. Also, an interactive system with an opportunity for feedback should be supplementally used if possible. Symbolically, this may indicate a high level of concern. For instance, a company with offices in several states was forced to restructure. The grapevine was rampant with concerns about layoffs, loss of benefits, and forced relocations. It was not possible for the CEO to visit all the locations in a timely manner, so she chose to announce the general plan for the restructuring via an interactive video teleconference. All the employees met in various conference rooms and lunchrooms throughout the company. After the CEO announced the restructuring, the telephone lines were opened for questions.

This technology had one distinct advantage even though it may not have been as personal. It allowed the message to be sent throughout the company concurrently so all the employees received the same message at the same time, thus controlling rumors and minimizing anxiety. This is an advantage that would not have been possible without the technology.

Message Negativity

Messages extend along a continuum from positive to negative. When sending a negative message, managers should generally think about the receiver's reaction. Consequently, the extent to which a message is negative and the extent to which it is sensitive are highly related. Some of the same generalities exist for the other categories.

Another important consideration exists when communicating negative messages via technology, however. A person receiving bad news via a technological channel may believe the manager was hiding behind the technology rather than facing the receiver directly. Or it may appear that the manager did not want to be responsible for the message.

Almost everyone has complained to a company about poor service or an incorrect billing. Frequently, the response to the complaint is an impersonal form letter. The reaction was probably increased frustration and even hostility. In short, technology often depersonalizes. Contemporary organizations are making efforts to balance high tech with "high touch." Addressing customers by name in mass mailings (a process made possible by technology)

STOP AND THINK

Consider a time when you complained to a company about their service or product.

1. How personalized was the company's reply message?
2. If the response was negative and you did not get what you asked for in your complaint, how did it make you feel? Are you a repeat customer? Why or why not?

is one example. Other strategies for softening the blow when sending negative messages are presented in Chapter 7. Managers can successfully influence receivers' reactions to bad news.

Message Complexity

Guidelines for using technology are somewhat clearer when considering message complexity. As the complexity of the message increases, managers should attempt to use (1) wider bandwidth, (2) the medium that will add to psychological closeness, (3) the technology that provides for the greatest amount of feedback, and (4) symbolism consistent with the complexity.

Discussion of a complex team-project schedule involving a series of dates and figures provides an example. Assume seven managers at four locations are a "virtual team." A number of viable solutions exist for communicating complex messages, without getting everyone together face-to-face. Fax, e-mail attachments, shared databases, and conference software that allow file sharing are common technologies for team communication. A relatively wide bandwidth is used; feedback is provided, and the sophisticated technology symbolizes the seriousness of the task.

Research shows the communication of complex, detailed information is not necessarily improved by face-to-face interaction.[22] An explanation of a complex engineering formula, for instance, can be just as effective with audio and graphic communication as when the person doing the explanation is physically present. Interactive computer conferencing via local area networks (LANs) can facilitate the communication of complex messages because it may stimulate better concentration from the receiver.

Message Persuasiveness

Persuasive messages involve an effort to induce a receiver to take a particular action. Persuasion is not an effort to coerce, fool, seduce, or manipulate the receiver. Rather, it is an attempt to get employees to comply with behaviors that will meet the goals of the organization. When thinking of persuasion, salespeople probably come to mind; however, managers frequently use persuasion, influence tactics, or compliance-gaining strategies to affect employees' performance. Efforts to introduce new work procedures, increase teamwork, or change corporate culture require persuasive communication. Suggestions for delivering persuasive business presentations are found in Chapter 5.

The topic of persuasion has been of interest since Aristotle's time. But a leading researcher more recently wrote: "Despite the vast number of pages written and the countless studies undertaken about persuasion, it is difficult to shake the uneasy feeling that we have precious little reliable, socially relevant knowledge about it."[23] Our understanding of persuasion is further complicated when considering technologically mediated communication. Little research has been conducted in this area; consequently, it is necessary to generalize about what we know from nonmediated communication.

A popular book, *Influence: The New Psychology of Modern Persuasion,* presents three conclusions about persuasion that are particularly pertinent to our discussion.[24] First, managers can more easily persuade those who like them. Second, people are more easily

STOP AND THINK

Consider a project team you participated in, either at school or at work.

1. Did your team meet in person or virtually?
2. To what extent did you develop positive feelings about the other team members?
3. If you have worked in teams both virtually and face-to-face, compare the intensity of the team spirit you developed in each environment. Which was stronger? Why?

persuaded when they perceive the persuader as an authority. Third, it is easier for managers to persuade others as they get psychologically and physically closer to them.

Persuaded by the One You Like

Few would be surprised to learn that we most prefer to say yes to the requests of someone we know and like. In addition, we like people with whom we spend more time, even if we are forced to spend this time together.

This research finding is important to our discussion because the quality of the time we spend with people via technology is generally not the same as if the person were physically present. In other words, no matter how much time we spend with people in teleconferences, it cannot substitute for personal presence.

Persuaded by the One You Believe

The second principle is not overly surprising either. We listen and are persuaded by those who appear to be authorities on the topic. This point is important among television news executives, because newsreaders and reporters must be believable if they are going to be watched. According to a recent *Reader's Digest* poll, the most trusted American journalists are ABC's Robin Roberts and Diane Sawyer, followed by NBC's Brian Williams, and CNN's Anderson Cooper[25]; they succeed partly because they look and sound like authorities.

But what about average managers who must use video or telephonic technology in an attempt to persuade? It would seem they are at a disadvantage. Again, these technologies should be used for persuasion only when necessary due to time or cost restrictions.

Another point adds to this caveat: It is more difficult to say no when looking a person directly in the eye. Even when we like a person or believe she is an authority, it is easier to say no from a distance. Technology seems to buffer the importance of trust that has been built into the communicators' relationship, diminishing its prominence as an element of the environment.

Persuaded by the One Who Is Close

Much sophisticated work has gone into preparing persuasive audiovisual presentations. But these presentations are not as effective as personal exposure of the one attempting the persuasion. If possible, it is best to have the person physically present. When physical presence of an authority is not possible, a well-organized presentation by a somewhat less credible source may be a good substitute. Often, the PowerPoint slide show is circulated electronically to audience members. What is the balance between physical presence and

credibility? These questions must be addressed. When considering persuasive managerial communication, however, one principle must always be considered. A person physically present is more persuasive than one who is present only via technologically mediated communication. That is why, despite the recent dramatic increase in online automobile sales, dealers continue to make an effort to lure online shoppers into their showrooms. And a test drive remains the best way to close a sale.

A LOOK TO THE FUTURE

E-mail, online dashboards, conferencing software, intranets, smartphones—all of these systems are with us today and are being used more and more frequently in the workplace. If one were to speculate about what developments would affect managerial communication in the future, any number of possibilities would exist. However, several safe projections can be made (Table 3–1). The first is that technology will simply be used more. Second, technology use will be monitored and regulated. Third, decision making will be affected. Fourth, job and organizational design will be altered. Fifth, mediated collaborative writing will be common. These trends are discussed next.

Table 3–1 Predictions for Technological Communication

Technology use in business environments will continue to increase.
Monitoring of employee technology use will become more extensive.
Technology will affect decision-making processes.
Technology will alter job and organizational design.
Mediated collaborative writing will be common.

Technology Proliferation

So far, this chapter has described the advantages and disadvantages of technology for communication in organizations. Problems with technology include the danger of sensory overload with useless cues (jamming), narrow bandwidth, diminished feelings of personal closeness, and reduced opportunities for feedback. Despite these disadvantages, however, networked organizations are the norm, mostly because they increase productivity. The strategic decision for managers, therefore, is not *whether* to use technological channels but *which* digital channel will best suit the situation and *how* to maximize its capabilities. In the following paragraphs, we will examine the strengths and weaknesses of four communication technologies commonly used in today's workplace—e-mail, instant messaging, texting, and blogging—and offer guidelines for best practice.

E-mail

An estimated 247 billion e-mails are sent each day worldwide, with the number expected to increase to 294 billion by 2010.[26] According to a recent White Collar Productivity Index

survey of time spent in the workplace, the average US executive receives two hundred e-mails per day after spam is extracted. Administrative and newer staff receive an average of fifty e-mails per day.[27] Nearly one in ten workers say they would need two or more days to catch up on e-mail if they went on a two-week vacation.[28] E-mail's influence has likewise grown. Fifty-six percent of workers surveyed by *USA Today* believe that e-mail increases their productivity. And one-third of chief information officers say losing an e-mail system for a week would be more traumatic than getting divorced, according to a survey by computer storage company Veritas.[29]

The risk of sensory overload, rather than motivating managers to ignore technological media, has stimulated managers to develop a variety of coping skills. They may use an assistant to sort and redirect the crush of messages. Features in most e-mail programs also are useful for coding and filtering messages according to sender or topic. Some companies try to help their managers cope with e-mail overload by enforcing "e-mail-free Fridays" or at least banning the use of the Reply All feature. The French have taken it a step further—labor unions and corporate representatives have agreed on "an obligation to disconnect from remote communication tools" that would apply to 250,000 employees. The accord proposed to the French Labor Ministry would require employers to verify that all workers receive eleven uninterrupted hours of daily "rest" time away from e-mail.[30] But managers most often are turning to IM and text messaging to avoid the crush of e-mail. That strategy, described earlier in this chapter, cuts e-mail traffic but does not diminish the amount of time spent interacting with technology or the level of resultant anxiety.

There are exceptions to today's technology-oriented executives. John Scully, the former CEO of Apple Computer, was infamous for not allowing employees to send him e-mail messages. Colleen Barrett, president emeritus of Southwest Airlines, is proud that throughout her presidency, until 2008, she did not have an e-mail address, did not use a PDA or surf the web, and only recently acquired a smartphone. She thinks e-mail is "very impersonal . . . a horrible way to communicate."[31] These examples of managerial nonuse of technology are the obverse of executives and employees in a company such as Colruyt, the Belgian discount food chain. Colruyt uses technology to maximize both vertical and horizontal information sharing. Secrecy is minimized, empowerment for decision making is maximized, and power no longer equates with access to information in such postmodern organizations.[32]

In response to the problems caused by overreliance on e-mail, best practices have emerged. Here are a few guidelines (see Table 3–2):

- Keep e-mails short so readers see the entire message on one screen and do not need to scroll. Recipients will not read long e-mails.[33]
- Do not use e-mail for urgent messages that call for immediate response. Many business professionals check their e-mail only once or twice per day.
- Do not use e-mail for dialogues. Discussions will be slow and inefficient.[34] Use the Reply All function sparingly.
- Push company-wide announcements to the intranet and simply e-mail the link to everyone. Focusing on the company's intranet as a source of routine information will relieve e-mail overload.[35]

- Create a code of conduct, train all employees about it, and periodically remind employees to follow it. The policy should address issues such as spam, message retention, records management, privacy, and non-work-related use.

Table 3–2 Best Practices for E-mail

Keep the message short.
Do not use e-mail for urgent messages that call for immediate response.
Do not use e-mail for dialogues.
Push company-wide announcements to the intranet.
When deciding what to include in your message, think of e-mail as a public forum.

Instant Messaging

Instant messaging is the informal name for service systems released by software developers in the 1990s. This communication method allowed users to communicate immediately through a common messaging program. America Online was the first company to successfully attract a strong instant messaging customer base. The majority of AOL's customers were young and technologically savvy. These young consumers quickly made AOL IM a success.[36]

The first generation of IM consumers who flocked to these early IM programs has since entered the workforce. They brought with them a level of technological comfort that has changed the face of modern business communication. Instant messaging has several unique advantages over other communication methods. International communication, message archiving, improved communication efficiency, and ease of implementation are the primary advantages of instant messaging.

Communication can be very expensive for multinational corporations. International phone calls are expensive, as is video conferencing hardware; in addition, videoconferencing requires a fixed location. Most free instant messaging programs have conferencing features that allow team members around the world to collaborate instantly using smartphones and tablets. They can also access these chat functions from any Internet connection in the world without IT support. Thus, IM improves international collaboration without increasing expenses.

Maintaining accurate records of communication improves employee efficiency and is beneficial during legal proceedings. Referring to transcripts of a conversation allows employees to retain and understand the intent of the conversation. During legal discovery, these archives may protect an organization from false accusations. Most free instant messaging programs have message archiving options. These archives are easy to set up and require significantly less server space than e-mail archives.[37] Instant messaging archives provide the same level of legal documentation as e-mail archives, but at a lower cost.

Instant messaging greatly improves communication efficiency compared to traditional electronic communication. Instant messaging programs allow users to immediately ask clarifying questions, converse at a comfortable pace, and also have a transcript of the conversation for review. Finally, instant messaging programs are very easy to implement because many employees already use them.

There are several disadvantages to instant messaging that must be identified in order to minimize their impact. Effectively managing these disadvantages will protect your organization. Instant messaging can establish legally binding contracts, distract workers, and expose companies to legal jurisdiction in other states.

The legal elements of a contractual agreement are offer, consideration, and acceptance. E-mail or instant messenger conversations that include these elements can be legally binding even if the specific details of the deal need further negotiation. The following IM exchange could be considered a legal contract:[38]

Buyer:	How's it going? Hope to see you and the family on the lake Friday.
Supplier:	We should be there.
Buyer:	Could you get me six of those new widgets by the end of the month? Got a project coming up, the boss is pushing hard.
Supplier:	Those systems are pricey.
Buyer:	They would make the job go a lot easier.
Supplier:	No problem. We've got plenty in stock, so I'll deliver them on the 20th.
Buyer:	Great and see you Friday.[39]

Any specific details that are not included would be negotiable, but the supplier could be forced to deliver six widgets to the buyer on the 20th. Breaching a contract can expose a company to legal liability and hurt its reputation. Employees must be educated on safe use of electronic communication, whether e-mail or instant messaging, to protect the organization.

Instant messaging can also disrupt workplace productivity. Instant messaging as well as e-mail are often used for personal communication, thereby reducing time on task. Instant messages can easily be archived and reviewed if managers believe this is a problem in their organization. Company policies for e-mail should be adapted to manage instant messaging. Ignoring this easily corrected disadvantage to instant messaging can reduce company productivity.

Another disadvantage of IM is that it can expose companies to legal jurisdiction liability in other states. In 2006, the New York Court of Appeals ruled that a Montana business could be sued in a New York court. The Montana business entered into and later breached a contract using instant messages. Conducting business over instant messenger was sufficient contact for New York courts to have jurisdiction over the Montana business. Employees using instant messaging to conduct business with outside parties must understand the legal implications.[40]

Clearly there is great potential for growth in instant messaging by businesses. Many companies are already utilizing instant messaging in their daily operations. Managers cannot ignore the growth of instant messaging communication. Table 3–3 lists some best practices for instant messaging communication.

A recent study by research company Radicati Group indicated that IM accounts are expected to grow to over 4.4 billion worldwide by 2017. With this increased personal and professional use of instant messaging, companies are responding by providing workers with enterprise-grade IM accounts, which have functionality and security that cannot be attained with public IM accounts, thereby overcoming concerns, especially when they are communicating with customers or business partners.[41]

Billions of dollars in commodities, stocks, bonds, and commercial goods are traded every day using instant messaging technology. The strong international communication, easy message archiving, high level of efficiency, and easy implementation will lead more organizations to use instant messaging. The contract formation issues, employee distraction, and legal jurisdiction concerns associated with instant messaging can be easily managed. The productivity and cost reduction benefits of instant messaging far outweigh the potential negatives to businesses.

Table 3–3 Best Practices for Instant Messaging Communication

Archive all incoming and outgoing messages.
Develop an instant messaging policy and circulate it among employees.
Do not use instant messaging for highly sensitive communication.
Educate employees about the potential legal liability they expose the company to through instant messaging.
Do not ban instant messaging, but provide guidance on how to use it.

Text Messaging

Text messaging, also known as Short Message Service (SMS), quickly became the new way for business people to communicate in the 21st century. It permits the sending of short messages between mobile phones, other handheld devices, and even landline telephones.[42] Young people in the United States seem to have adopted texting as their primary means of communicating with each other. Their typical attitude is that e-mail is old-school technology, useful only for exchanging messages with parents, grandparents, and professors. On the other hand, contemporary business professionals are being encouraged to use this channel together with e-mail. Although two-thirds of business professionals are using text messaging for business-related communications,[43] it does not appear that e-mail will be replaced anytime soon in business and industry.

Text messaging has many advantages. The most commonly identified benefits of text messaging are its speed, access, and discretion. Texting is fast because the message you send travels instantaneously, like a live conversation in person or by telephone. By

contrast, e-mail is asynchronous and interaction is not expected to be real time. There is a lag, especially when servers accumulate e-mails before delivering them to members of the network.

Accessibility is another advantage of text messaging. An SMS can be sent to anyone, anytime, anywhere. For this reason, many companies are using it to communicate with employees as they travel or to send important announcements to everyone in the company. Text messages, unlike e-mail, can be delivered directly to someone's desktop so that it can receive immediate attention.[44]

Finally, sending an SMS is a discreet way to get in touch with someone. Most text messaging devices have a setting that will permit the device to vibrate when a new message hits, preventing disruptions and intrusions. One handy application is when an employee urgently needs to communicate with the boss while she or he is in a meeting. Because it is less disruptive than a phone call while remaining more "personal" than e-mail, texting is handy for dual communications.

The most commonly listed disadvantages to text messaging are its lack of security, structure, and formality. Security is a major issue because texting is instantaneous, and it does not allow enough time for virus scanners to check completely for viruses, thus leaving computers unprotected. No matter how fast virus scanners become, they will always be able to protect against e-mails better than SMSes.[45]

Lack of structure is another disadvantage of instant messaging. Unlike e-mails, which are set up in memo format, text messages do not have a set form. Most are sent as very short messages by using a shorthand code that users must learn to decipher.

For example, a synopsis of the classic novel, *Pride and Prejudice*, sent as a text message, might look like the following:

5SistrsWntngHsbnds.NwMenInTwn-Bingly&Darcy Fit&Loadd

This mysterious string of letters and symbols translates to this:

Five sisters are wanting husbands. They have their sights set on two new men in town—Bingley and Darcy. They are handsome and wealthy.[46]

This type of message can be difficult for new users to understand. Perhaps more importantly in business settings, a cryptic text message may lead to serious misunderstandings and costly errors. It may encourage employees to take more care when crafting text messages if you remind them that texts can be archived and are discoverable in a court of law.

Finally, managers may be reluctant to allow texting technology because they fear that employees will abuse it. Texting was designed for recreational "chatting," and it is easy to get

involved in personal exchanges that take up valuable work time. Additionally, from a distance, an employee who is typing messages may appear to be on task. A flood of nonurgent or personal text messages can be distracting to busy workers as well.

After reviewing the advantages and disadvantages, a business can decide whether using SMS technology will be beneficial to them. Many companies that have already adopted this technology have been increasing their usage of this communication channel, but they are not abandoning e-mail. Instead, they are using texting in tandem with e-mail to send reminders or announcements that need to be communicated immediately.[47] For example, an employee might send an important e-mail to his boss and then send a reminder SMS, letting her know that the e-mail was sent.

Best practices for text messaging in business are still evolving. At the current time, the principles for effective use of instant messaging are considered applicable to text messaging use and are summarized in Table 3–4.

Overall, it appears that business professionals will continue to increase their use of text messaging. With its many advantages, including mobility, convenience, and immediacy, more companies will use it to stay in touch with employees and bosses as they travel or when a message needs to be received quickly. Beyond convenience, this technology offers business people the competitive advantages of increased productivity and efficiency. However, with the security problems and other disadvantages it is unlikely that SMS will replace e-mail anytime soon, at least for business purposes.

Table 3–4 Best Practices for Text Messaging Communication

Remember that texts are generally not secure, so limit proprietary information.
Be concise, but be sure your shortcuts (acronyms, abbreviations, jargon) are familiar to all.
Use punctuation for clarity and accuracy.
Avoid emoticons and formatting for emphasis (all caps, multiple exclamation points).
Develop a text messaging policy and circulate it among employees.

Blogging

The use of blogs (short for web logs) as a technological communication tool is a growing trend among Internet users today. The very first blogs were online "diaries."[48] Blogs can be updated at any time from any place. Unlike most Internet pages, blogs are dynamic. An individual can easily update the information in her blog, add more information, or start a completely different train of thought.[49] Blog composition requires no knowledge of web-programming languages, such as HTML.[50] Blogs are made available via Really Simple Syndication (RSS), the technology that allows blogs to reach audiences worldwide.[51]

Blogs are proliferating in the business environment because they open up new internal and external channels.[52] Although the technology is the same, the ways that blogs are used internally and externally differ.

The most common use for blogs within businesses today is as a project coordination tool. A team working on a project can use a blog to share information or provide progress updates. This information can be seen by the team members, managers that wish to "check in," or any other individuals within the company that are allowed access. Instead of spending the time to have a meeting with the team to discuss the team's progress on a project, the manager can simply take a look at the group's project blog. The benefit of blogs as a project coordination tool is amplified for teams that include members located in different geographic locations.

Blogs can also be used internally as a means of sharing information and collecting feedback from stakeholders.[53] If a company is looking for feedback from employees about a new policy, for example, they could start an internal blog about the issue. Previously, a series of meetings, reports, letters, memos, or "town-hall" gatherings may have been necessary. Blogs allow everyone to participate in the discussion at their convenience and keep a permanent record of all the thoughts, comments, and input that can be reviewed and considered at the convenience of the decision maker.

Blogs can be used externally to accomplish a variety of tasks. Companies can begin blogs to communicate with customers, potential customers, or even external vendors and supply chain members.[54] Communication using blogs or similar technology is viewed as more genuine, credible, and "real" compared to the rote and often boring language of mission statements and press releases. Blogs are written in a conversational tone, which external stakeholders view more favorably.[55] Companies can use external blogs to obtain feedback from their customers about current or future products. Companies can use blogs to respond to criticism or crisis in the market. Companies can use blogs to gather new ideas about changes or new products that they should consider offering.[56] The sum of a customer-focused blog is that it allows companies to build and maintain relationships with their public, strengthening their brand and positioning in the marketplace.[57]

Another external use for blogs is to advertise. Many companies operate in niche markets and are constantly looking for new ways to reach their target market.[58] With over 112 million blogs online to choose from, chances are good that a blog focused on any given industry exists. Companies can capitalize on this opportunity by running banner ads on these blog sites, virtually guaranteeing that the people that come to read the blog are in their target market.

Blogs offer companies a chance to learn of criticisms, crises, or information much more quickly. In return, blogs also offer an avenue to respond to such criticisms, crises, or information quickly.[59] Previously, corporations relied on press releases, industry trade publications, or time-intensive website upgrades to announce new products or services. Blogs provide a means for corporations to communicate with consumers before, during, and after new products are brought to market.

Blogs also offer some challenges in managing external relations. Corporate blogs, although maintained by individual employees, do represent the "voice of the corporation." Without proper monitoring, it is possible that the company could get a bad reputation.[60] Companies must also remember that most blog posts are permanent. There is

Table 3–5 Best Practices for Blog Communication

Internal Blogs	External Blogs
Use instead of meetings for simple and quick progress updates, information sharing, and gathering of feedback.	Use for quick release of information during crises.
To encourage honesty, do not censor bloggers.	Be sure that company-sponsored postings are consistent with the company's brand, mission, and image.
Write in a conversational tone.	Monitor blogs daily to keep abreast of public sentiment.
Maintain a professional writing style, remembering that posts are permanent records.	Respond quickly to publicly posted blog comments, whether positive or critical.

little companies can do after the fact to remedy situations such as releasing information in a blog that was not meant to reach the general public and/or competition.

Since blogs are seen as another "voice" of a company, it is important to ensure that the voice speaking in external blogs agrees with the voice speaking in mission statements, press releases, advertisements, websites, and other forms of external communication. One way to ensure this continuity of voice is to create guidelines that employees must follow when writing blogs for external audiences. Guidelines may also help avoid legal troubles that could result from improper blog usage. Table 3–5 offers a summary of best practices for corporate blogs.

In summary, e-mail, IM, text messages, and blogs are contemporary communication technologies that are integral to networked organizations, and with their use, the hierarchical culture is dissolved. Rank does not matter as much to workers who are on the network and who know what everyone is doing. Today's managers no longer manage information; they manage networks of people. Teams use technology to collaborate, overcoming geographic barriers among team members. In addition to increasing efficiency, technology reduces groupthink, defuses emotional issues, and enhances the creativity of decisions. Clearly, these advantages outweigh the risks and costs of using technology for workplace communication.

Monitoring Technology Use

A second prediction about technologically mediated communication in business is that monitoring mechanisms will become increasingly sophisticated. Surveillance methods are developing hand in hand with innovations in communication technology. These efforts are exemplified by federal law enforcement and national security officials' sweeping

regulations that allow surveillance of Internet communications, including encrypted e-mails, social networking websites, and peer-to-peer software, such as Skype. In the United States, phone and broadband networks are already required to have interception capabilities, under a 1994 law called the Communications Assistance to Law Enforcement Act. These capabilities apply to companies that operate from servers abroad and that conduct international business.

The business sector is following the example of governmental surveillance policies by developing technologies that allow eavesdropping on employees. Electronic monitoring systems allow employers to gather very detailed information about how their employees spend their time at work.[61]

Companies monitor employees for many reasons. These include the following:

- Mitigating legal liability
- Reducing the misuse of company resources
- Protecting intellectual property[62]

First, companies monitor in order to prevent lawsuits. Companies can be held liable for any and all communication that uses their computer systems.[63] In fact, a sexual harassment suit was brought against Chevron when an employee sent an offensive e-mail over the company system. This seemingly incidental e-mail ended up costing the company $2.2 million.[64]

Second, companies monitor to catch employees who are misusing the company's resources. For example, employers want to know if an employee is spending valuable work time surfing the Internet, playing computer games, or planning a vacation online.

Third, many companies have intellectual property and trade secrets that they need to protect. Monitoring employees is one way to keep tabs on their property and make sure it is not leaked out to a competitor. All an employee would have to do is accidentally or even purposefully send an e-mail to the wrong person, and it could end up out of the company's control.

Companies now have various ways to monitor employees in the workplace. They range from programs that block access to certain Internet sites to ones that record every key stroke ever typed on the worker's computer (even ones that have been deleted).

Secret monitoring by employers is widespread and supported by the courts.[65] Some employers automatically send copies of every e-mail to the sender's supervisor.[66] They can also use global positioning systems on employees' badges to allow them to record workers' movements.[67] In addition, 32 percent of employers use video surveillance to watch employees, and of these organizations, 20 percent do not inform workers that they are being taped.[68]

The monitoring of individuals has enabled employers to prevent problems and to reprimand workers who have disobeyed corporate policies. *The New York Times*, Xerox Corp., and First Union Bank have apparently terminated employees after discovering improper use of company-provided Internet.[69] A *CIO Magazine* survey stated that 90 percent of chief information officers reported they would fire an employee if the individual used the company e-mail to sexually harass someone else.[70] Eighty-four percent stated they would

STOP AND THINK

1. How do you feel about the courts' decisions to support secret monitoring of employees' technology use?
2. How can these limitations on employees' constitutional rights to privacy and freedom of expression be justified?

fire someone for sending pornography to coworkers, and 80 percent would fire an employee for compromising trade secrets.[71]

Employees should realize that any time spent using technology at work should be limited to work-related activities. Further, any communications being sent or received to a work e-mail address, pager, smartphone, or tablet should be considered appropriate for anyone to read. In 2010, in its first ruling on the privacy rights of employees who send messages on the job, the Supreme Court unanimously agreed that supervisors may read through subordinates' text messages if they suspect that work rules are being violated. Since employers are not required to let employees know when they are monitoring, it is up to the employees to be on their best behavior and to think twice before doing something even slightly inappropriate while on the job.

Decision Making

A third major prediction about the future of communication technology in business is that it will significantly affect business decisions. Managerial decision making may be defined as the process of identifying and solving problems. Decision making requires that managers scan for pertinent information. Most discussions on this topic generally contain two major stages. One is the problem identification stage. Information about relevant conditions is monitored both to determine whether performance is meeting expectations and to diagnose the cause of any shortcomings. The other stage involves solution identification. Alternative actions are considered, and one alternative is selected and implemented. A more thorough explanation of the rational problem-solving process is presented in Chapters 4 and 12. In both stages of the process, the more information available, the greater the probability that effective decisions will be made. And more and more information is available with increased technologies.

Burger King provides an example of the effect of communication technology on decision making. Each Burger King restaurant is networked via computer to a central office where each sale is transmitted and recorded. When one store is running low on a product, even without the store manager placing an order, the central facility is aware of the shortage and can send supplies. This is comparable to e-mail except the messages are automatically prepared and transmitted. Thus, stage one in the decision process, the problem identification stage, is more easily accomplished because of communication technology.

As organizations become larger and as more sophisticated information systems are designed, the probability becomes greater that technological communication systems will be used for decision making. For instance, Intel, the world's largest microchip maker, has several manufacturing and research facilities in Arizona and Northern California. Attempts to resolve complex technological problems frequently require input from various experts. Assume that highly technical information is needed to analyze a unique problem. This

information may be available only in the Science Library at Arizona State University. An engineer in California can access the information through a special terminal in her office that is connected to the library in Tempe, Arizona. A copy of the document can be available to the engineer within seconds.

This quick access to information has three apparent implications. First, anyone who wants to remain competitive must know where and how to access the information. Information sharing is a key to good business decision making, and successful contemporary organizations strive for transparency.

Second, managers who are bombarded with masses of information find the odds of making an effective decision greatly diminished. If managers receive large quantities of both relevant and irrelevant information, the important facts and figures may be overlooked and can create problems, because the human mind can process only so many data. As noted earlier in Figure 3–1, a point develops at which the mind blocks out any additional, though valuable, information. As technology allows for rapid acquisition of greater amounts of information, poorer rather than better decisions may result.

Third, communication technology allows managers to quickly change their decisions. Say a manager writes an analytical report comparing the acquisitions of two pieces of property for a retail outlet. The report's recommendation is finalized and ready for submission to an executive committee. At the last minute, new information is made available through a database to which the company subscribes. This allows the manager to alter the report's recommendation at the last minute. As presented in Chapter 2, the manager's challenge is to know where to get information, when and how to present it to others, and how and when to use it. In some ways, information technology makes the decision-making process easier, but in other ways, it becomes more complex.

Job and Organizational Design

A fourth trend in business communication technology is that it will allow managers to monitor more closely the standards expected from a job performance. Take a simple example of a sales representative responsible for calling on furniture stores. The objective is to obtain cooperation in setting up a special display within the stores. The standard of performance is to make two calls per day and obtain three displays per ten calls. The formal agreement is to report the day's activities to the central office at the end of each day. This is done via smartphone, tablet, or laptop. E-mail and text messages are exchanged continuously.

In this example, even more emerging technologies could be used, such as photo messaging. Snapchat, Instagram, Kik, Wickr, and other apps let users exchange images, either plain or with virtual scribbles, of people and projects. In fact, snapping photos has become the most widely used function of smartphones, and not just among teenagers. Snapchatters sent 350 million photos and videos each day in 2013, up 600 percent from the previous year.[72] It is logical to assume that many of these exchanges supported business functions.

Without sophisticated technology, such an intensive level of interaction among employees and their managers would not have been possible. It would have been necessary to mail

reports to the central office, so feedback may not have been obtained for several days. Interaction via technologically mediated communication allows managers to maintain control over their direct reports and allows employees in the field to stay connected.

In addition to improved control of specific jobs, organizational relationships may change with mediated communication. We generally think of jobs being connected by means of either horizontal or vertical integration. Horizontal communication or integration occurs between people at the same hierarchical level. Managers may meet horizontally to coordinate activities, solve problems, resolve conflicts, or just share information. Regardless of the purpose, more horizontal communication can occur as a result of technology.

Consider this example. The board of directors of a hospital system with eight locations directed the human resources managers to implement a safety training program in each hospital. The managers want to share ideas with each other on the most efficient way to implement the program. Technology makes travel for a meeting unnecessary—a videoconference, satellite downlink, or teleconference would meet the purpose. In this case, technology allows for greater integration at lower expense.

Vertical integration is the coordination among higher and lower levels within the hierarchy. Unfortunately, it often seems that different levels of the organization typically do not communicate well with each other.[73] But as noted when discussing formalization, mediated communication should assist this process. Managers and subordinates are more accessible with technology. Distance and time are less troublesome.

This improved vertical and horizontal integration is resulting in dramatically different job and organizational structures. Recent research indicates that, in an effort to create competitive advantage, managers' jobs have become more information oriented, while the number of layers of managers has decreased.[74] And technology facilitates this trend toward networked information exchange.

Collaboration

The fifth prediction about the future of business technology is that it will play a major role in work collaboration. Picture five managers, each sitting at a computer in five different locations around the country. Special software allows the managers to edit the same document simultaneously. Any changes made to the document are visible to all members as changes occur. Furthermore, protocols built into the software allow group members to alter or even delete each other's work.

Most business documents require more than one person to be involved in the writing process. Examples include proposals, reports to regulatory agencies, annual reports to shareholders, policy manuals, operating procedures, newsletters, directives, user manuals, training materials, mission/vision and strategic goal statements, progress reports, and personnel reports. Technology allows collaborative writing of such documents to be performed concurrently, not just sequentially. Unfortunately, collaborative writing too often means one person writes part of the report and then sends it to another person for revision. This person then passes it on to another and so forth. This is extremely time consuming, and coordination is difficult.

STOP AND THINK

Recall a team project you participated in, either at work or at school.

1. What communication tools did you use to expedite team collaboration?
2. How well did they work?
3. What could the team have done better to ensure that everyone's input on the deliverable was maximized?

Today's technology allows managers to do more than relay documents; it allows managers to develop synergy that accompanies true collaboration. Groupware is a family of software that supports group tasks in various levels of shared electronic environments. Groupware provides computer-mediated communication systems, allowing different viewpoints and ideas to be compared and discussed in real time. As versions of the text are compared, a better product results without bruising egos. Because collaborative writing is becoming so important, it is discussed more extensively in Chapter 6.

Group Decision Support Systems (GDSSs) are software and associated processes that have been designed to advance coordination of group projects. The fundamental goal of a GDSS is to support collaborative work activities, such as idea creation, message exchange, project planning, document creation, copyediting, and joint decision making.[75] A commonly used example is wikis. Group Decision Support Systems provide a platform for groups to collaborate when members are dispersed, working in their separate offices, homes, or client locations. Other systems support face-to-face meetings that occur in one physical setting, such as a conference or boardroom. With these, it is possible to instantaneously display ideas on large screens, vote on individual preferences, compile the anonymous input of ideas and preferences, and electronically exchange ideas between members. GDSS programs include various quantitative analysis techniques. The most sophisticated systems include expert advice in the selecting and arranging of rules to be applied during interpersonal communication.[76]

THE MANAGEMENT CHALLENGE

What does all this mean for managers? It means they must become sensitive to the correct type of communication channel to use in different situations. It means managers must learn to use these new technologies. It means another dimension has been added to managerial communication.

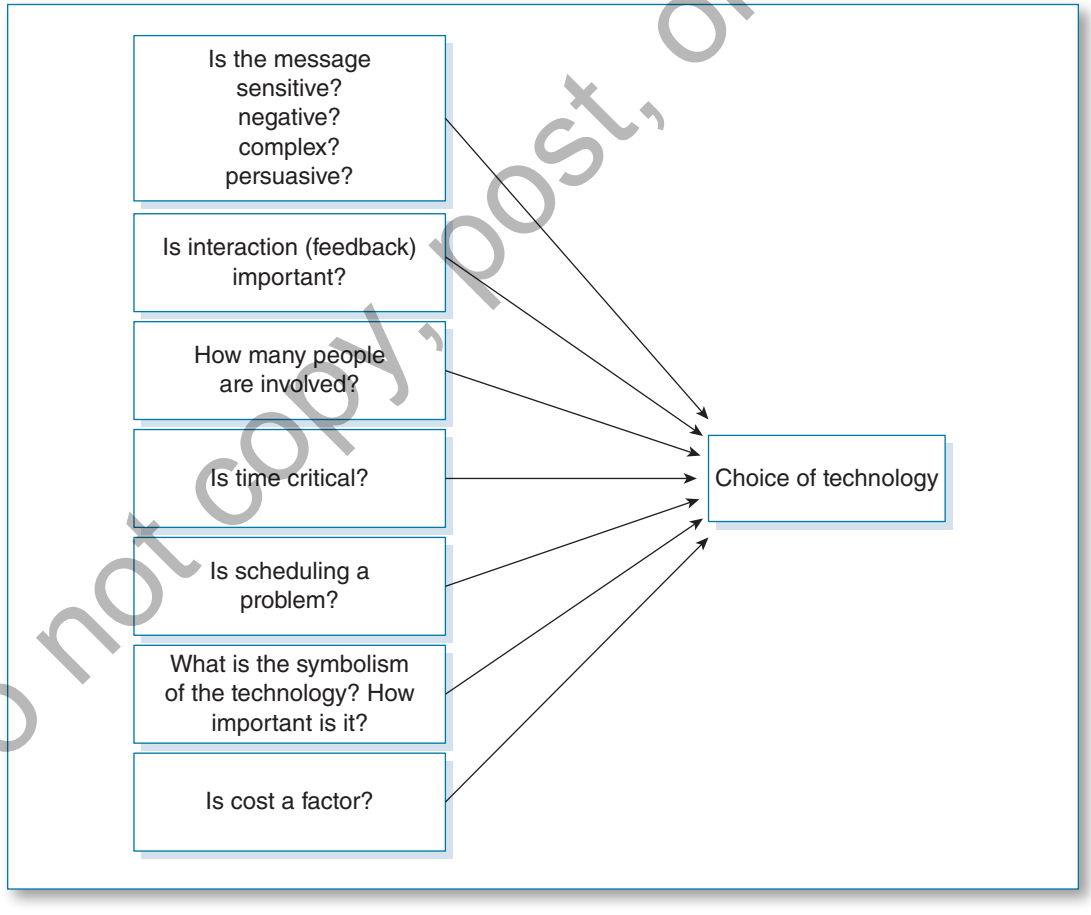
Let us expand on each of these points. Several studies have indicated a strong correlation exists between a manager's media sensitivity and managerial performance. When a task involved complex information or was highly emotional, for instance, effective managers were more inclined to use communication channels with a broad bandwidth than were ineffective managers.[77]

Innovations in communication technology have added a whole new dimension to the manager's job: understanding and selecting the correct communication channel. A corollary to this requirement is that managers must guide their subordinates in the proper, ethical use of the technology. For instance, instant messaging is an official corporate communication

tool for approximately 26 percent of US companies. Employees use IM on their own in another 44 percent of companies, sometimes for personal as well as business-related use. Yet 35 percent of companies do not have an official IM policy, risking breaches of confidentiality, viruses, and copyright infringement.[78] New communication tools are constantly becoming available, requiring strategic decisions. It is clear that business is committed to investing in technology, and companies expect managers to make this investment pay off.

The technology payoff could be increased if managers had a guidebook summarizing when each technology is best used, but such a resource is not possible. Too many contingencies must be considered to say categorically which technology should be used when. This chapter, however, has attempted to raise some of the important questions managers should ask themselves as they choose a channel for their message. Figure 3–3 illustrates the question process that managers should follow when selecting a technology.

Figure 3–3 Technology Choice Contingencies



SUMMARY

To understand better how technology affects managerial communication, four concepts are discussed. First, bandwidth is affected because one channel is generally omitted when technologically mediated communication is used. Perceived closeness, or propinquity, is a consideration because electronic media affect the extent to which people feel close to each other. The feedback cycle is much shorter with technology, so this is also a consideration. Finally, the symbolic interactionist perspective is considered because the use of various communication channels has different symbolic values.

When matching technology to the message, four message factors are considered. First is message sensitivity. Greater bandwidth should generally be used with sensitive messages. The second category is message negativity. Managers must be careful not to hide behind technology when presenting negative messages. The third category is message complexity. Two ways to effectively transmit relatively complex messages are teleconferencing and computer conferencing. The fourth category is message persuasiveness. The extent to which the receiver likes the sender and the extent to which the sender is perceived as an authority must be considered. In general, persuasion is less effective when the communication is mediated by technology.

Going forward, technology will continue to proliferate, and so will surveillance mechanisms. Best practices are emerging for the most common technologies, including e-mail, texting, instant messaging, and blogging. Technology will continue to affect managerial communication in decision making, job and organizational design, and collaborative writing. All these technologies will challenge future managers as they make strategic decisions and as they monitor and guide their employees' technologically mediated communication.

Cases for Small-Group Discussion

CASE 3–1

Communicating with Technology on Friday Afternoon

Colleen cheered as she completed the last of her attachments for the report, which had been a last-minute request on a fair weather Friday. She was eager to begin the weekend, since she had made plans with her roommate to spend it at the seashore. She saved the interactive PDF file, which linked to eighteen ancillary files, and attached all nineteen files to her e-mail to her boss.

Colleen pressed Send and logged off. She rushed from her office to catch the 5:15 p.m. uptown bus. If she missed it, she would have to wait about a half hour for the next one. As she jumped on the bus before the doors closed and grabbed a seat in the back, she opened her purse. She quickly turned off her phone, which had only a small charge left, to preserve the battery. She brushed her hair and put on some lip gloss in preparation for dinner at a nice uptown bistro. Brian, her date, had made reservations for outdoor dining on the bistro's balcony overlooking the bustling street below.

At the same moment, Colleen's boss was opening Colleen's e-mail. As he downloaded the files, error messages began popping up. Six of the files had been corrupted in electronic transit. He called Colleen's extension; it went immediately to voicemail. He called her cell phone and heard a familiar message—the recipient was not receiving calls. He e-mailed her, hoping that she would somehow still be available, to no avail. Panic quickly set in—the report had to be delivered at a meeting in one hour, and the other four functional area managers would be present.

QUESTIONS

1. Do you perceive any possible repercussions from the failure of the electronic transfer of the six files?
2. What would you suggest as a one-hour plan for Colleen's boss?
3. How could problems like the one in this scenario be avoided (a) by Colleen, (b) by Colleen's boss, or (c) by company policies?

CASE 3–2

Reply to All?!

Jamal Wright arrived at the office a bit late on Monday morning, around 9:45. He had been invited to speak at the Miami Chamber of Commerce breakfast as the chief operating officer for InterWorld Traders, an international shipping service. His topic, ironically, was communication efficiency. His speech was well received, and he was in a good mood as he logged in for the day. As he opened his e-mail, he was instantly struck by the incredible number of internal e-mails he had waiting in his inbox. Normally about 20 messages, today the tally was 21,291! The e-mail messages were from all over the world, and were short messages in reply to others' messages. Thousands of them!

Jamal scrolled down the list until he got to the last ones he had read on Friday afternoon. The culprit soon surfaced. It was a message from Sue Knowles, a manager in charge of distribution analysis. Her job focused on the efficiency of logistical matters concerning the shipping of parcels and the organization of the firm's headquarters warehouse. Sue had sent out a call asking for input concerning any efficiency issues that had been noticed in any of the areas within the firm. Unfortunately, the question was open ended, and her delivery method had created a monster. She had sent the message to all of the 546 supervisory-level managers or higher within the company. She had not used a mail merge process to send the messages; instead, she had listed a group with all of the e-mail addresses included in the recipients line of her message. The result was disastrous. As several well-meaning recipients responded with their observations and suggestions, they had unfortunately selected Reply All. Apparently, the recipients were under the impression that only two or three people had received the initial e-mail. Unfortunately, as others also hit Reply All in their responses to the responses, millions of e-mail messages flooded the firm's servers.

Jamal returned to the more recent messages. They were noticeably aggressive messages, like "Remove me from this e-mail list" and "I wish you people would learn to use e-mail properly!" and "You idiots stop e-mailing me!" There were even some who obviously realized what was going on—they had replied to all saying, "Everyone stop pressing Reply All!"

The tumult of messages was growing greater minute by minute. The company was bogged down in its inability to function by e-mail, and there seemed to be no end in sight.

QUESTIONS

1. How could blunders like the one described above be prevented?
2. Since it was not prevented, what should Jamal do now?

CASE 3–3

The Potential for Technology

Bill Emory is the operations vice president of a banking firm in California that has forty-eight branch operations. These operations vary from drive-in facilities with ten employees to larger facilities employing as many as 150 people. Employee turnover has always been a major problem in these branches, and no employment strategy has been effective in reducing this problem. The high turnover has made employee training a special problem.

The human resources department is responsible for employee training, but HR charges branch operations for the expenses incurred. The recent expansion in training due to ever-changing services offered by the bank has become extremely costly. Emory has decided it is time to attempt to reduce these costs by implementing some new training strategies. He believes that many of the new communication technologies could be used to save training expenses. In particular, savings could be realized for the branches that are more than 400 miles from the corporate office. (In the past, the training representatives would travel to the branch site, stay overnight, present a one- or two-day training session, and then return. Emory would like to reduce these travel and lodging expenses.) Emory has casually asked the HR manager, Joan Tyson, to investigate communication technology possibilities in training, but no action has been taken; consequently, Emory has decided to write a persuasive letter to Tyson encouraging Tyson's staff to investigate this subject.

PROJECT

Write a memo to the HR manager, Joan Tyson, which could be used for this purpose. Include one or two specific technologies that might be appropriate, their advantages, and the communication impact that could be expected. Special attention should be given to training for the tellers. For instance, the procedures for recording the various transactions and customer communications should be part of the training.

CASE 3–4

Improvements at ServeNow

ServeNow is a grocery store chain that has seven stores in the southeastern United States. ServeNow's strategy is to target smaller towns (under 50,000 population) so it can become the dominant store in the

area. The chain is headquartered in the largest town (population 75,000) in which it has a store. Each store is at least 50 miles from another store within the network.

The owner of the stores, Edward Bushley, has found that it is extremely difficult to monitor store activities because of travel logistics. As a result, the manager of each store has traditionally had a lot of latitude. Many of the pricing and inventory decisions are made at the individual locations. However, most purchasing is made through a central purchasing office in the headquarters city.

But during the past two weeks, three managers left ServeNow to start an online grocery brokerage service. This took Bushley by surprise, but being an entrepreneur himself, he understands their desire to start their own business. In addition, another manager is nearing retirement. Bushley has found that it is extremely difficult to find qualified replacements for these energetic, creative managers.

Bushley had hoped that potential managers would be available among his present employees, but he discovered the company is weak in its succession planning. Current staff members do not seem to have the capabilities or desire to become store managers. It has become obvious that managers have to be found outside of the present staff.

Bushley has retained a small-business consultant, Solange DePeres, who specializes in personnel problems. DePeres agreed that no potential managers were on the present staff. The assistant store managers would be able to manage during the transition, but ultimately new personnel would have to be hired. She stated that Bushley would have to hire managers who were not familiar with the stores' operations and simply spend more time with them than he had with the previous managers. In particular, Bushley would have to spend time training them and answering operational questions.

Bushley asks DePeres, "How can I possibly spend more time at the individual stores? It seems that I am already too busy to maintain a balanced lifestyle."

PROJECT

Assume you are the small-business consultant, Solange DePeres, and make several recommendations to help Bushley stay in touch with his stores and develop his managerial force. Consider especially the technological communication tools on the market. Explain your recommendations.

Student Study Site

Visit the Student Study Site at **study.sagepub.com/hynes6e** for web quizzes, video links, web resources, and cases studies.

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