

UNIT 6: INTEGRATING INFORMATION

OVERVIEW

This unit presents methods for integrating information obtained from others. **Integrated information** includes such writing products as annual reports and fiscal analyses. We will describe the process of obtaining information from others and outline how to manage the process. One of the tools necessary for standardizing format and delivery, and for ensuring technical and mechanical accuracy, is the style guide. Whenever possible, you should provide employee writers with guidelines for style and tone. For larger organizations, or larger, more complex projects, editors are often needed to enforce consistency in terminology and style. Finally, we will discuss how to resolve problems that may arise, and how to handle documents that have multiple authors with varying styles and differing perceptions of the standards.

OBJECTIVES

After completing this unit, you should be able to:

- identify situations where managers typically need to integrate information
- discuss problems associated with integrating information in today's workplace
- isolate three major and three minor stylistic differences in sample documents written by multiple authors
- identify three conditions in which over- and under-writing occur when information is integrated from many sources

DISCUSSION

Our age has been called the Information Age because of the variety and extent of information available to us, and because of the uses that we make of information. The Information Age has transformed the role of writers and the nature of writing, making writers more than ever collectors of information, and transforming many forms of writing into complex information-gathering.

WHAT IT MEANS TO INTEGRATE INFORMATION

The need for writers to integrate information from others has existed for almost as long as written expression itself. In the twentieth century, and especially in recent years, that need has been partially satisfied by the increased availability of information and by the technology to transport and integrate it quickly and accurately. Today's writers have more tools and resources available to them than at any other time, not to mention ever-greater volumes of information. Journalists and researchers need only tap into satellite communications or tie into large databases to access information on virtually every known topic. Their reports and papers often reflect statistics and results previously inaccessible and sometimes only hours old.

Large- and Small-Scale Integration

For managers, integrating information has grown from a personal challenge to one associated with organizational change itself. Most managers routinely request information from employees, which in turn is used in managerial reports or other documents. In *The Manager as Editor*, Louis Visco (1981) describes such managerial involvement as "initiation," where the manager works with what Visco terms a "closed system" to request, review, integrate, and assume responsibility for what is written (ibid., 1–2). On a larger scale, however, the need to integrate information has become part of an overall challenge to manage interdependence among often disparate groups within organizations—no longer a closed system. As organizations increase in size, and as they diversify their offerings, they become complex organizations, often employing individuals skilled in special areas to perform jobs that cross product boundaries.

Numerous examples of this type of organization are available in everyday life. A company that develops many different computer software applications, for example, may employ teams of systems analysts, computer programmers, and technical writers to work on multiple products. Such teams may be located at different sites—even in different countries—

and may be dependent on one another to exchange information. In "The Networked Organization," a chapter from *The Corporation of the 1990s* (1991), John Rockart and James Short point out that such organizations are most often "communication rich" environments designed for interconnectivity via computer (in Morton 1991, 191).

As more and more members of the organization do an increasing portion of their work on or through workstations, and as these workstations become easily linked to pervasive networks, we move toward the possibility of a truly flexible organization. One dimension of such an organization is that any member can easily link to any other person, or information, horizontally or vertically . . . [which] enables the organization to make use of *ad hoc* teams to accomplish tasks as they arise. (ibid., 190)

As Rockart and Short indicate, managers working in such conditions often find that they must abandon traditional approaches to managing and to conducting everyday business, including the business of writing. Classical systems for reporting annual sales and revenues, the smoke-filled accountants' room, give way to workstation cubicles where accountants use specially tailored software to store and analyze numbers, and then convey the information to technical writers and analysts who compile and publish an annual report, often at a distance. In large organizations, the numbers of accountants and writers may soar to the hundreds, all of whom comprise a writing team which may report to a project office or who may be managed by a management team.

Interdependence and the Need for Increased Skills

One effect of such interdependence within networked organizations is a need for new skills among managers and employees. This is especially true of reading, writing, and related skills. Given the information-rich environments of most networked organizations, managers and employees alike need to develop critical reading skills that will allow them to assimilate and prioritize large volumes of information quickly and efficiently, and to integrate it into their writing, where appropriate.

With universal access to information, employees often look to managers for interpretation of significant events, policies, or issues addressed on network E-mail systems or online conferencing forums. Similarly, managers who receive site reports from far-flung work sites must be able to scan those reports for the most valuable information, often filling in where description may be deficient or missing.

The kinds of information that you might want or need to integrate from others could include: portions of reports that you have delegated to others to write; status reports for your department, which must be "rolled up" into larger organizational status reports; news items from online bulletin boards and other sources; and financial or project data residing in large databases. Once obtained, this information becomes your responsibility. Its accuracy, style, tone, even spelling will affect your credibility as a manager. Because both managers and employees must frequently work with and handle the information of employees who are not professional communicators, they may be asked to play the associated roles of writing teachers, editors, and writing project leaders as well.

Selecting Coauthors or Creating a Writing Team

One likely scenario for most writers today is that they will eventually participate in collaborative or shared writing. They can do this either as coauthors of a document or as members of a writing team. **Coauthors** are those who will write parts of a document with you. Managers are often in positions to select coauthors from within the ranks of their own employees, and they frequently are expected to write reports with other managers. In addition, managers often organize, manage, or participate in writing teams for completing large or complex writing projects. They may also serve as reviewers for information produced by other such teams.

Unit 6: Integrating Information

An important requirement for coauthors and for writing team members is that they have the skills for integrating information from others, or be willing to acquire these skills. The table below lists some of the essential skills needed by writers who must assimilate and integrate information from others in today's business environments. If information sharing is extensive where you work, you may be able to add skills that you deem necessary to the table.

Table 6.1
Skills Needed to Integrate Information

Activity:	Skills Required:
Integrate writing with different stylistic characteristics	Understanding of style
Edit information from different sources	Knowledge of document creation technology; ability to differentiate stylistic differences, establish guidelines, and enforce consistency
Resolve conflicts in data	Ability to detect conflicts and find best solution; interviewing skills; ability to define uncharted processes for resolution
Access information in databases	Ability to use computer systems and follow written and online instructions; knowledge of where information resides
Run database reporting tools	Ability to follow written directions, understand logical groupings, and envision ways to sort information for reporting
Integrate and use information from conferencing forums	Critical thinking and evaluation skills; ability to decide which types of information are suitable; ability to transform colloquial style; healthy skepticism concerning accuracy of information reported on conferencing forums

ASSUMING WRITING LEADERSHIP AS PART OF INFORMATION INTEGRATION

In assuming writing leadership, managers and employees ultimately agree to take responsibility for what is communicated, no matter how many or how varied the contributors to a piece of writing. With writers of varying ability, you should be prepared for unevenness and even inaccuracies in what you receive. Some sections may contain passages that are over-written, others may be under-written. Such unevenness usually occurs when writers have different styles or different perceptions of what is required. When you detect uneven writing in team writing situations, you can use strategies such as assigning one writer to coordinate and edit the work of others. You can also meet regularly with writers and establish guidelines and checkpoints that will help you keep everyone on track.

If you receive a lot of information from others, you should also be prepared to have to rework much of it to suit your needs and style. Learn to prune what you don't need from long reports, and focus on what you do need. Study your style—your way of writing, the words you use, and the way you structure sentences—to discover what makes your style different from that of others. Then, when you receive information from others, learn to recast it so that it conforms to your usual style by focusing on these characteristics.

Be prepared also to detect what you might call an "eroding" of your own style due to the influence of others. Although inexperienced writers can benefit by imitating the style of more experienced writers, experienced writers can occasionally be adversely affected by writing that is less polished. Learn to look for phrases and sentences that do not sound like yours even though you wrote them, and look especially for words that you might use incorrectly just because they are used incorrectly elsewhere in aggregate writing. Resist the tendency to propagate poor writing that has been made to sound official, such as memos that begin "As per your request."

Understanding and Conveying the Scope of the Writing

When you are the only writer performing writing and research, it is generally easier to understand the scope of your writing task. Writers working alone usually experience a different set of problems associated with scope than writers working in teams. For a single writer, assessing the scope of the work and making adjustments can usually be contained within a pre-ordained schedule—unless adjusting the scope requires including a lot more information than originally predicted. A writer who finds that a particular topic requires more, or less, attention simply adjusts the outline and attempts to accommodate the work.

In team or collaborative writing, however, it is essential that all employees understand the entire scope of the work to be written—as well as the scope of their individual piece of the writing—before writing activity begins. Writing project leaders and managers can ensure that this happens by employing strategies learned in unit 5, including providing outlines, focusing on a design or procedural document, holding regular meetings to assess work load, and monitoring schedules.

Providing a comprehensive outline for an entire work and making it available to all writing contributors can help avoid problems that occur when different writers interpret the scope of the overall writing project differently. In team writing, the amount of time available to individual writers to devote to their piece of the writing often plays an important part in determining the quality and evenness of the writing. Personal preferences, opinions, and varying research abilities and styles also influence how thoroughly individuals think and write. And, sometimes, job-related differences account for differences in perspective. The humorous illustration on the next page teaches a valuable lesson about perception and the role that it plays in assessments about scope that individual writers may make.

Problems in perceiving the scope of writing work also occur as communication problems between managers and employees. Sometimes, writers misinterpret a manager's enthusiasm (or lack of it) for a writing project, and this can affect their perceptions of the project's importance. A manager who introduces a new writing assignment by noting that, "The marketers want us to provide a little blurb on the widget's capabilities for them . . ." will probably encounter employees who perceive a project on a smaller scale than those whose manager announces, "We are to be part of a proposal writing group that expects to win a \$1 million bid marketing our widget in six countries."

Perceptual differences among employee writers can often be detected by asking questions of the writers in early planning sessions. A good starting point is to assess each writer's knowledge of the audience for the entire work. Three writers working on the same marketing brochure should be able to describe the audience for the brochure in the same way. They should understand the size of the brochure and its budget. Likewise, team writers should eventually reach consensus about which topics should receive emphasis, which should be de-emphasized, and so on. If coming to consensus proves difficult, or if one writer's perceptions of what is needed to complete the work differs greatly from those of others, then the scope of work needs to be readdressed with the team. If perceptual variations persist, personnel adjustments within the team may need to be made.

Learning About the Technology

Integrating information invariably involves understanding some of the technology used to create, send, receive, merge, compare, sort, and improve writing. Even if you are not the original creator of a document, you still need to understand the technology associated with it to comment constructively about it. Allow time to unravel the complexity of the technology if you do not fully understand how the information transfers. Many managers are beginning to receive and send information online, often over great distances and to locations very different from their own.

The phenomenon that began with the ordinary office facsimile machine has grown larger and more complex with the advent of E-mail, local area networks (LANs), machine-to-machine transfers, and fiber optic technology. Most organizations employ experienced personnel to manage information technology; however, integrating information from others with little or no planning can invite incompatibilities and interminable delays.

While modern technology allows us to do volumes of work more easily, efficiently, and faster, system "down" time, "broken links," "truncated" or "packed" files, incompatible software or printing technologies are a few difficulties that you might encounter with electronic exchanges of information. The information planning processes discussed in unit 4 can help you manage electronic exchanges of information. In addition, if you plan to use such exchanges, you should educate yourself and your employees in the advantages, disadvantages, and proper uses of the technology needed to achieve the exchange.

When you receive writing from others over a computer network, you need to know the document type of the document you receive as well as the document type of the document into

which you will import the new information. Document types are often referred to as *file types* or *file formats*, and today, even simple word processing requires some knowledge of them.

Most writers who work with word processors to create their own writing understand that sending documents to people who use document creation systems different from theirs requires stripping the document of its underlying formatting, or controls, often referred to as creating an ASCII file. Writers and graphic artists who create artwork using specially designed computer software must ensure that the artwork is compatible with the text of the writing, and, if shared, is able to be received and printed by recipients. Senders and recipients of information often engage in extensive communication to ensure complete compatibility among pieces of shared information, yet problems related to sharing incompatible pieces occur occasionally.

In addition to understanding the technology associated with word processing, some writers use electronic publishing systems that require Standardized General Markup Language (SGML) or similar "tagged" files for formatting. Although the term *electronic publishing* is often used to refer to any computerized method of document creation, within the computer industry it is usually defined more narrowly. Within the industry, **electronic publishing** is known to be publishing that occurs usually on large-scale systems, in which the author's intent is preserved through external formatting of tagged text to provide predetermined styles. Writers working in electronic publishing systems often require special knowledge of the tag or markup language used, in addition to knowledge of the software used to process the markup. Because there are several different markup languages, writers also must be aware of compatibility problems and be knowledgeable of transforms, or software designed to convert incompatible tagging.

Applying and Keeping Up with Technology

Because writing and publishing technologies change rapidly, it may be helpful to identify what you can do with technology as you integrate information rather than focus on specific technology-related products. Knowing where to find information about such products is often a better solution to keeping up with the technology than having exhaustive, use-specific product knowledge. When you plan writing projects as part of the process described in unit 2, you can allow extra time to find specific information about the products that your writers will use. In addition, if you know in advance that you are going to rely on integrated information, you can spend time in the beginning to understand the transfer of information and to establish standards.

Writers working on many large writing projects are trained well in advance of their deadlines in how to create and transfer information, what standards to follow, and which products to use.

Setting Quality Objectives and Schedules

As with the scope of writing for integrated information, the quality of integrated information can prove problematic if left undefined. Two writers writing different chapters in the same book may have vastly different ideas about what constitutes good quality information. And, even if they agree on what good quality is, they may differ on what levels of quality are appropriate for various draft stages of the document.

In simple terms, good quality writing can be defined as writing that is accurate in what it reports and in how it reports; complete, in that it conveys all needed information to readers; appropriate, in that it addresses the right topics in suitable fashion; and useful, in that it conveys not only what is accurate, but also what is needed or meaningful to readers. Achieving good quality can involve a number of steps and tasks, the first of which is generally establishing quality objectives.

When writing teams have an assigned editor, the editor often establishes quality objectives for varying draft levels during the writing stage. These objectives are distributed to all members of the team before writing begins and are enforced by the editor and through other review mechanisms, such as peer reviews. One objective, for example, might be to eliminate all grammar and spelling errors by the second draft stage of a three-draft process. In some writing groups, error tracking is used to show improvement and to demonstrate that quality objectives have been met. In addition, in situations where writers are treating highly controversial, complex, or sensitive topics, sending the writing out for interim inspections and documented approvals helps to ensure higher quality through consensus-gathering about what constitutes the right thing to say. Unit 7 discusses in detail some ways for establishing and enforcing quality objectives.

Arbitrating Style

As mentioned, recognizing and understanding stylistic differences is a crucial aspect of integrating information from others. Arbitrating style involves recognizing your own writing style as well as judging which of two or more potential stylistic characteristics of writing are most suitable—for example, whether to use contractions (don't, can't, and the like). Because much

of the integrated information that you handle as a manager may be information that is eventually integrated into documents that you own, being able to recognize the hallmarks of your own style is important. Without this knowledge, you may find that you have trouble integrating information that is stylistically different from your own, or even that your own style begins to erode as you are exposed to styles that are less effective and natural for you. For example, if your style tends to be conversational, and your writing voice usually sounds like your speaking voice, then you should be careful when integrating information from writers who write more formally or whose writing is noticeably different from yours.

Arbitrating style is always considerably easier when other principles are implemented—for example, when you establish quality goals, style guidelines, and provide specific writing reference resources, such as the *Chicago Manual of Style*, before writing begins. No matter how well you prepare, difficult stylistic decisions will arise periodically. As an arbitrator of stylistic questions, you can arrive at sound conclusions by keeping the following in mind:

- The style that you choose should fit the audience for the writing. You should strive to avoid conflict with the audience's goals or expectations. Readers may expect, for example, that standard English rather than colloquial language will be used.
- The style used should reflect how the document will be used. For example, if a document is to be translated into other languages, you should make style decisions that will assist, not hinder, the translation.
- The style used should match that used in similar or related documents. In some companies, for example, all policy and procedure manuals are written in the same style, often by using and reusing boilerplate or template information. In another example, say, in a three-volume series, you should ensure that style used in all three volumes is compatible.
- The style used should never detract from the meaning of what is written or the clarity of its presentation. Use of an elliptical or telegraphic style (one that leaves out "little" words such as the articles *the*, *an*, *a*), for example, can confuse readers, who may interpret "Data not in report," to mean that the data was not in *a* report, that it was not in *the* report, that it was not in *any* report, that it was not reportable, or that, due to error, it was not reported.

Editing for Better Quality

Most writers still believe that careful, iterative writing and editing are the best ways to ensure good quality, although writers and editors are frequently at odds concerning the issue of quality. For integrated information, editing is essential, but, as we have discussed, it cannot stand alone. Careful planning, care in choosing skilled coauthors or writing teams, an understanding of technology, and clear definition of writing standards and processes all accompany editing as ways to ensure quality.

In unit 8, you will learn more about how to edit documents, including how to edit across documents to ensure consistency of style. To conclude this unit, you should examine figure 6.1, which depicts some areas of particular interest to those who edit integrated information.

Figure 6.1
Sample Editorial Diagnosis of Problems Related to Integrating
Information from Others

What to Look for in Integrated Information:	How to Respond:
Mismatches in levels of technicality among different sections	Probably caused by varying perceptions among writers. Work with the lead writer to establish norm. Indicate rewrites for some sections.
Confused terminology: different words used to describe the same concept	Work with the writing team to choose the most appropriate word. Look for precedents if writers cannot agree. Establish chosen word in glossary for use by all.
Weakly written sections	Can indicate skills problem of one or more writers. Either call for rewrites by authors or ask lead writer to rewrite.
Incompatible formatting	Establish a formatting template or formatting guide that writers can use as a base or for reference.

REFERENCES

- Rockart, John, and James Short. "The Networked Organization." In *The Corporation of the 1990s*, edited by Michael Morton. New York: Oxford University Press, 1991.
- Visco, Louis. *The Manager as Editor: Reviewing Memos, Letters, and Reports*. Boston: CBI Publishing Co., 1981.

REVIEW QUESTIONS

1. Why is it important for managers to know how to integrate information from others?
2. What are three strategies that managers can use to control the quality of the writing they receive from others?
3. What are three problems that commonly occur in group writing situations?
4. List the aspects of your writing that you might examine to help you identify your own writing style.
5. What technologies are available for helping managers receive information from others?

INTEGRATING QUESTIONS

1. Assume that an employee has prepared a report on the progress of a departmental project for your signature. The report will go to your manager and, possibly, to your manager's manager for final approval. In reviewing the report, you discover that, although the data is correct, the report's orientation is not right. How would you work with the employee to ensure correct orientation?
2. To what extent must managers understand and use the technology that facilitates information transfer? Is it necessary for managers to understand the document creation technology used within their departments?
3. Recent studies have shown that repeated use of electronic mail and conferencing systems can affect writing style by making it less formal. Information that is transferred using such systems tends to be less structured and organized less formally than it would be in other situations. What implications do these findings have for managers and employees who rely on E-mail and conferencing as sources of information?

SUGGESTED ACTIVITIES

- Devise a two-column list in which you compare and contrast the activities associated with team writing and those associated with collaborative writing.
- For your next team writing tasks, assemble a team of writers and plan to spend one month planning the activities of writing. When the project is complete, assess the month's investment and describe what you gained or lost as a result of the month's planning.
- If you have never attempted to integrate information received online from someone else, ask someone in another department to prepare a document for you and send it to you. When you get the document, list all of the things that you had to do or consider before you could use it in combination with a document you were concurrently working on.

SUGGESTED READING

Alred, Gerald J., Walter E. Oliu, and Charles T. Brusaw. "The Writing Team" and "Gathering Information" in *The Professional Writer: A Guide for Advanced Technical Writing*. New York: St. Martin's Press, 1992.

Morton, Michael S., editor. *The Corporation of the 1990s*. New York: Oxford University Press, 1991.