

Communicating to Decide

Chapter Learning Objectives

- Understand the organization as a consequence of **collective decision-making**.
- Understand how the business community's rhetorical norms create its **rules** for effective decision making.
- Understand how various methods of **communication** work as decision-making tools.

Collective Decisions in the Business Environment

A business organization is an environment of constant decision making, and decision-making skill is an important element of managerial success. The skill is not simply a matter of individual intelligence, however, or technical expertise in a particular area of problem solving. In a business environment, decisions are virtually never made by single individuals. Instead, executive teams, boards of directors, project teams, and management groups make collective decisions to act in concert. The focus here is in participating in those decision making processes. You need to know how to play by the rules, how to facilitate the communication that makes the selected decision-making process work, and how to use the rules to make decision that are in your favor.

Even the most capable problem solver will find business decision making to be a complex and often difficult communication task. Many organizational theorists are beginning to move beyond the focus on individual thinking skills to consider corporate decision making in terms of "organizational cognition". Major business decisions are not simply choices, but processes through which groups of people harmonize their thinking such that they come to share perceptions, goals, and values. Even individuals who think of themselves as simply "coordinating" or "sharing" their individual decisions are actually engaged in an ongoing process of organizational "sensemaking" that creates a collective understanding of how things ought to be done(Weick, 1995).

The Rules: How Business Decisions Get Made

Communication is the mechanism by which the organization makes its decision. The communication culture of a business thus forms its decision-making culture as well. Guidelines for good managerial decision-making reflect the business community's rhetorical norms:

- ***Sensitivity to the hierarchy*** Attention to organizational context is the basis for any decision-making process. No decision is made in a vacuum, and a "strategic" perspective requires attention to an organization's goals as well as functional interrelationships and effects on multiple stakeholders.
- ***Rational thinking*** Decision making in the business environment is based primarily on systematic, analytical thought and objective evidence. Although other bases might be used to make a decision, its justification is usually reframed in terms of objective evidence and analysis.
- ***Reciprocity*** Behind closed doors at least, relationships are valued when decisions are being made. The justification of a decision might be framed in terms of the "objective" payoff, but compromise, negotiation, and bribery all take reciprocal relationships into account.

- **Action orientation** Decision-making is defined in terms of an obligation to act. A decision without implementation is only a partial decision, and the conversation cannot end until a plan of action has been adopted.

Decision-making processes are influenced by formal analysis techniques, behaviors, personal characteristics, and power politics.

A Reciprocal Ethic in Decision Making

The business community subscribes to a particular set of decision-making rules that are particularly well-suited for assertive, task-focused, action-taking. Some would argue that the focus prevents other more “humane” kinds of action from being taken (Ashcroft, 2001; Mumby & Putnam, 1992), or that the complexity of contemporary organizations exceeds the capacity of the decision-making system (Axelrod & Cohen, 1999; Gharajedaghi, 1999; Stacey, Griffin, & Shaw, 2000). Nevertheless, decision-making in most business organizations invokes some consistent rules of communication.

Structuring the Conversation

As you might expect, any decision-making conversation, whether formal or informal, will follow the basic structure of providing a task-related context, then the information required for a decision, and finally an implementation of the choice.

The decision-making process might take place over several face-to-face conversations, written documents or formal presentations, so separate communication events might fulfill each of the steps. Nevertheless, the fundamentally task-oriented nature of a business requires that all decision-making communication be grounded in answering the most basic of questions:

- Why is there a need to act?
- What information must we select, exchange, compare, and evaluate in order to come to a shared understanding of the action that ought to be taken?
- What are the steps required for its implementation?

Objective Argument

Business decisions are firmly grounded in the Western traditions of argumentation, which presume that the best decisions are based on an objective examination of empirical evidence. The examination, furthermore, is enhanced by a “competition” of ideas in which individual participants are encouraged to present the very best evidence and logic to support a specific position.

“Businesslike” decision makers are thus expected to make strong, assertive stands for or against positions, regardless of how they might “really” feel about an issue. In fact, the ability to “argue the other side” of a point is a prized decision-making ability, as it allows group members to explore the evidence and logic in support of positions none of them currently hold, thus avoiding the dangers of “group think.”

Compromise

Sometimes the negotiation of a decision is made informally, in a small group setting or an interpersonal conversation around the copy machine. At other times, the process is formalized and advocates are asked to make a formal presentation to an assembled group of decision-makers. Regardless of the venue, a “businesslike” decision-making conversation is characterized by its apparent objectivity, mutual respect and civility. Although the participants are nearly always engaged in some kind of conflict over organizational power, limited resources or personality differences, it is improper (although certainly not unheard of) to raise voices, engage in personal attacks or resort to emotional demands. Instead, a well-formed business decision is characterized by *conversational structure*, *objective consideration of evidence*, and *deference to the decision*.

Deference to the Decision

An important element of decision-making conversations in the business realm is the assumption that organizational loyalties will take precedence over any lingering disagreement. No matter how strenuously an individual protests a course of action, he is expected to fully support its implementation if the group decides against him.

Unlike social or even political organizations, in which an individual would be considered hypocritical to remain a member if his or her views did not reflect the group’s positions, an organizational employee is expected to implement the corporate decision regardless of his or her own personal views. Such an employee is, however, expected to remain a “devil’s advocate” for an alternative course of action, thus insuring that the organization as a whole is not blind to the possibility for change.

The Process of Rational Thinking

The ideal business decision is fully articulated. That is, each stage in the process is verbalized to insure that all participants in the process are in agreement before moving on. While there is some variation in the exact stages from one type of decision to another, most decision-making flows through four basic issues: defining a problem, determining its cause, selecting a workable solution, and evaluating its cost.

Classical Analysis

Within the overall framework of defining and deciding issues, business decision-making typically calls for the use of a systematic decision-making process, following steps first outlined by Dewey: of the subject under discussion. Analysis is a general term that means to break apart a complex idea or situation into its component parts, which can then be examined and evaluated against some understanding of how things are thought to be, should be or could be.

Defining the Problem

The first step for any group engaged in analysis, or individual communicating his or her decision process, is to define the scope of its task. The world is simply too large and complex to look at everything at once, so typically a particular segment is selected for closer examination. This might appear as an agenda item at a meeting, a first paragraph of a memo, or in the introductory context of a presentation. If a group has met to “analyze a problem”, it’s first order of business is to clarify what that problem is.

No group will be willing to take action unless it first agrees that there is some warrant for its expenditure of time, energy and resources. Thus, the first issue that must be resolved is whether there is a problem of some kind. A problem must be deemed *significant* in its actual or potential harm to relevant stakeholders.

A great deal of communication might be necessary for a group to quantify the problem, explore the extent of its effect, and determine whether other stakeholders have differing views of the problem. There should be agreement on the definitions and significance of the problem before the decision-makers proceed to finding solutions to it.

A group of employees representing various departments in the plant are asked to meet and “figure out a way to revive the Holiday Party.” Their first topic of discussion is to determine the subject of analysis, which they agree is that attendance at the Holiday Party has decreased each of the previous five years.

Determine its Cause

Analysis might be used to define a problem, to identify its cause, or to evaluate potential solutions, but the decision-making conversation will follow a basic pattern:

- select an analytical framework to be used
- evaluate each component against the criteria set in the framework
- conclude which components are contributing to the issue.

Conflict often arises in decision-making groups around the distinction between a problem and its cause. Some people prefer to speak of the harmful effects as “symptoms” of a problem, using the word problem to describe the underlying cause of the harms that are experienced by the organization.

Often, this decision-making task is distributed widely among researchers, analysts or technical specialists engaged in seemingly independent problem-solving activities. In some cases, their communication is indirect. Each analyst might submit a report to a single supervisor, for instance, who combines their assessments into a single report. In decision-making meetings, on the other hand, an explicit agenda item might explore or summarize the analysis of a problem’s cause and the group works together to reach agreement.

Regardless of the communication methods, the decision-makers must ultimately share an understanding of how the problem came into being before they can proceed to the next stage of locating a solution. The group might agree that multiple causes exist for a particular problem, and considerable discussion might be required to determine their interrelationships.

Select an analytical framework

The group’s next order of business is to agree on a way to analyze the targeted subject. As students in a business college, you have learned a wide variety of methods for analyzing the functions of a business, and perhaps examined the competing claims of very different methods for evaluating certain issues. In some situations, a group agrees easily on the framework that ought

to be used, but even then, a paragraph, presentation point, or agenda item should clarify the procedure that will be adopted.

The group hasn't had much experience with event planning or organizational diversity issues, so the members locate a website that provides a checklist for holding a "dynamite company shindig" as well as an article on the problems of integrating a variety of holiday traditions into an organization's celebration.

Often, there are multiple ways to approach a problem, and some groups decide to combine the insights of several sources. A fund management group, for instance, might wish to select stocks based on the advice of several different financial analysts.

- Care should be taken that the assumptions and conditions of each method are compatible. One analyst might value price stability, while another bases decisions on long term outlook without any concern for volatility.
- Determine also whether a suggested analytical framework is a *prescriptive* model of how things ought to be, or a *descriptive* model of how things actually are. While one analyst might recommend companies on the basis of their environmental records, for instance, another might look only at their actual market performance over time.

The decision-making process will suffer if the group does not fully understand the analytical processes it is attempting to use.

Realizing that the website assumes a very traditional, homogeneous organization, the committee decides that several of its suggestions are probably insensitive to the need for some variety at their company's party. On the other hand, the article seems to be primarily focused on legal issues involved in holding "mandatory" parties. After some discussion, the group agrees on a list of criteria taken from each list and adds a few items that have been mentioned by individuals in several departments as reasons for attending or not attending a holiday party over the years.

Evaluate the subject

Once an analytical framework has been selected the next step is to look at the subject in terms of the component pieces it specifies. This portion of the decision-making process will typically involve a great deal of time, and often a group will assign each member a particular portion of the evaluation to complete. The results are then compiled in a later meeting, a report, or perhaps as a combined spreadsheet or database.

Care must be taken to review *each* of the items named as important by the analytical framework, and to evaluate it completely in terms of the specified criteria. Decision-making groups will often discover that they lack insufficient information to use an analytical model to its best advantage. Sometimes the group will arrange for additional data to be collected; in other situations the decision will be made without ideal information.

The more detailed and objective the criteria, the easier it is to evaluate each component, and the more straightforward the analysis will be. When decision criteria are vague or information is

incomplete, the decision-making discussion can be expected to take longer and involve more conflict.

Identify Remaining Decision Issues

Very few decision making conversations, reports or meetings end neatly. Rather than a collective agreement on a single course of action, most decision-making communication results in a series of further questions. Often the most important communication that occurs is the articulation of decision issues that remain to be resolved in the next conversation, report or meeting.

In a decision-making communication event, the action step is often a clarification of the decision issues yet to be resolved. While the issues themselves will vary with the situation, they tend to fall into several key categories.

- ***Where are we in the overall decision-making process?*** The group should clarify that all members agree on whether they are defining the problem, determining its cause, locating a potential solution or clarifying its costs.
- ***What are the remaining questions of fact?*** Any research or data gathering needs should be clearly identified, with responsibilities and timeframes established to complete the task.
- ***What are the remaining questions of interpretation?*** If there are disagreements remaining over the interpretation of the available data, the varying positions should be clearly stated. One auditor might feel that a discrepancy represents a significant departure from standards, for example, while another insists the issue is of minor importance. Such disagreements should be listed so that the group can locate a method of resolving each one.
- ***What are the remaining questions of value?*** Nearly any business decision will be made in spite of remaining disagreements over the relative value of various costs or outcomes. Any complex organization with multiple stakeholders will necessarily be making choices about how to prioritize conflicting interests. While these disagreements are inevitable, they should be articulated and communicated to the organization in appropriate ways. A compensation committee, for instance, might choose to raise all workers' salaries by a set amount, thereby exacerbating wage inequities that already exist. Its final report should acknowledge the value issues implicit in that decision.

Reach a conclusion

Once the conversation has compared each element of the situation with the criteria called for in the model, a discussion group will be ready to reach a conclusion, its assessment of the subject in terms of the analysis being done.

Most analytical models will allow some sort of prediction about a subject's success or failure based on its conformity to set criteria. A stock analysis, for example, will yield a "buy" or "sell" or "hold" recommendation based on an equity's conformity to its parameters.

Since many groups will be moving on to a recommendation phase in the overall decision making process, it can be easy to begin brainstorming possible methods of solving the problem that is identified. Be very careful when communicating the decision, however, to carefully distinguish

between conclusions that can be drawn from the analysis and “extra” ideas or issues that cannot be supported by the evaluation.

Excited to realize that it has identified “popular entertainment features” and “sustained excitement over the duration of the party” as elements that have not been met as the company’s workforce grew more diverse, the group itches to begin brainstorming about popular party activities. Instead, the team drafts a memo to the Human Resources department concluding that the company’s holiday party would be enhanced with party activities that held more interest for its young and increasingly diverse workforce.

The best business communication balances their use to fit the context on an ongoing basis, although documentation of a decision almost always requires that you justify according to the analytical/explicit model.

Select a workable solution

Eliminating the Cause

Seldom is there only one single best, correct solution to any problem, and decision-makers often use the bulk of their communication to explore the various methods that might be available to remove the cause of the problem they have identified. It is at this stage of the decision-making that formal advocacy and argumentation are often used to communicate the benefits of various alternatives.

Good decision making requires careful articulation of the group’s criteria for acceptable actions, including multiple stakeholder expectations, social and environmental responsibilities, strategic as well as short term goals, as well as a full assessment of the practical workability of the various possible courses of action. Since there might be multiple causes of a problem, each could require a complete analysis and the group should be able to compare the effectiveness of removing one or more causes.

The group obtains the records for party planning over the past ten years, comparing each of the parties against their list of ten “key” ingredients for a great holiday party. While it appears that the food, entertainment and music has remained constant over the past ten years, they note that their younger employee contacts consistently claim that “dumb games” and “boring raffles” are the reasons they have not attended.

Assessing the Cost of Solving the Problem

It is only after the group has come to a shared understanding of the problem, its causes, and the potential efficacy of a proposed solution that its communication should turn to the relative costs of various courses of action. One choice, of course, is to take no action at all, comparing the costs of the problem with the costs of its solution. All other choices, of course, require the prioritization of various organizational goals and resources in order to decide whether the implementation of a solution is worthwhile.

Many business conversations seem to begin at this stage of the decision-making. An employee might propose purchasing a new piece of software, for instance, on the grounds that it is very inexpensive. Unless previous conversations have already established that a software need exists that can be adequately fulfilled by this purchase, the discussion of price is premature. Good decision making communication will begin with a clarification and summary of *shared* agreements on prerequisite issues as the context statement for the next conversational stage.

Implement and Evaluate

While Dewey's original model ended at the choice, the action orientation of the pragmatic business environment has called for a final implementation step, which includes a step to "verify that the outcomes expected from implementing the decision were achieved" and to allow corrections if necessary (Ireland & Miller, 2004 8)

Logic and Evidence

Whether decision-making is performed by oral, written or graphical methods, business participants work on the presumption that objective evidence and analytical thinking will be displayed. Generally speaking, "intuitive" or "emotional" decision making is avoided, and choices are justified on the basis of "hard" evidence.

Communicators are expected to provide evidence in support of their positions, and all participants in the decision making process are expected to "test" the evidence for its completeness, validity and accuracy.

Empirical evidence

For most people, the truism "seeing is believing" makes empirical evidence the strongest kind of proof. This is the concrete demonstration of the truth of a fact or situation. A salesman makes arrangements to demonstrate the product in the customer's own plant, showing "without a doubt" that it will perform as promised.

Traditionally, photographic evidence has been treated as a form of empirical evidence, although the ability to manipulate photos is now available to anyone with access to a computer. In truth, magicians and con artists have always depended on their ability to fake empirical evidence, and cognition research has amply shown the degree to which human perception can be deceived.

- **Empirical** The tangible information that an audience can perceive with its own senses is called empirical data, and it is usually considered the strongest form of evidence. The sales prospect who is allowed to test the product will have no doubt as to the truth of the claims about it. Media-savvy audiences have learned to be at least a little suspicious, but photographs, audio-recordings, and first-person testimony from impartial observers is also considered empirical data by most decision-makers.

Evidence from authority

A common kind of evidence is the testimony of an authority on the subject under consideration.

- An expert can be defined as someone with particular knowledge of the subject. A financial planner might review the reports of several stock analysts, for example, and justify her recommendation on the basis of their extensive research of the industry.
- Authority can also come from the value an audience places in a source's opinion. Some people become "opinion leaders" because their good taste or good judgment has been noted, even though they might have no particular expertise in an area.
- An audience can also find a particular source to be of high value for organizational or political reasons. Just as a son might listen to his dad simply because he is dad, a business person can be persuaded to act because "the boss thinks this is a good idea."

Evidence from authority must be tested on the basis of the source's credibility. In areas of expert authority, the questions are simple to ask, if sometimes difficult to find answer: does the person really have sufficient knowledge to make a judgment on the topic? When the authority derives his or her credibility from past decision-making performance or a relationship with the audience, there is very little objective testing that can be done.

- **Authority** An authority is someone with sufficient expertise on a subject that his or her opinion is accepted by others as evidence. A CEO of a large and successful company in the industry, for example, might be quoted as an authority on marketing techniques or the business outlook. An *expert authority* is generally acknowledged by virtue of experience or success in a given field, but decision-makers can also be persuaded by a *valued authority* on the basis of relationships, values, or personality. A manager might value the ethical opinions of a former business professor, for instance, even though the professor has no particular expertise on the technical questions under consideration.

Logical evidence

Most of what passes for "evidence" is in fact an interpretation of evidence. That is, empirical evidence (data observed personally) or authoritative evidence (data observed by someone else) is then used to reach a conclusion somewhat apart from the pure "facts" of the situation. A customer service clerk, for instance, who has observed that "people who purchase lawn mowers are also interested in purchasing garden hoses" has not empirically observed customer attitudes. At best, she can say that she has observed the purchases of some individuals. After that, she has *generalized* from the sample to come to a conclusion about customers overall, and she has *interpreted* their purchasing behavior as an indication of their attitudes toward garden hoses.

The adequate communication of evidence in business decision-making depends on carefully defining such interpretations. Data that has been derived as a generalization or correlation on the basis of statistical probabilities must be carefully described. Comparisons and analogies must be described with sufficient detail that audiences can be confident that the situations are similar in all important respects. Interpretations made on the basis of examples or case studies must be accurately distinguished from the results of surveys.

Graphics as Evidence

“Bad graphics, says Tufte, fail because they omit or manipulate context, deceive by discouraging comparison or obscuring important details, and confuse with visual miscues. We are, he says, surrounded by poorly rendered data.” (Martin, 1997 274)

- **Interpretation** By far the most evidence that is used involves the interpretation of empirical data of some sort, using a reasoning process that follows accepted rules of logic, to arrive at a “probable” truth. Every kind of *statistical* reasoning involves the use of a limited amount of data to determine probable behavior over a larger domain. A survey of customers, for instance, is used to predict the preferences of all customers. Similarly, *analogies* are made to make predictions about one domain based on the empirical evidence gathered in another. A quality analyst does extensive testing on one production line, and then assumes the same issues will need to be corrected on all the lines. *Examples* can be used, either from anecdotal experience or from extended case studies, to derive clarifications and insights that can be applied to the decision. The importance of a new day care benefit could be supported with the story of one employee’s attendance difficulties.

Communication as a Decision-Making Tool

At least one historian of corporate management has argued that increased availability and effectiveness of communication technology allowed management to develop as a systematic method of controlling business organizations (Yates, 1989). Certainly the practice of management consists primarily of communication activities (Mintzberg, 1975), and most of that communication is devoted to decision-making processes of one kind or another.

Written Communication as a Decision-Making Tool

When documents are well written, their management function can be invisible. The writer and reader create a relationship, share information and take action. Although they will tend to describe themselves as implementing strategy, solving a problem, or making a decision, it was the successful interaction, effective articulation of ideas, and creation of shared meaning that allowed those decisions to be made.

Written communication plays a special role in this process by virtue of its *permanence*, *consistency*, and *precision*.

- Documents are permanent over both space and time. A decision process is not limited to those individuals who happen to be in the room, nor is its implementation limited by the ability of supervisors to personally deliver instructions or monitor work. A memo can be sent to every member of a global organization. A report can be read by future employees who then have access to the full decision-making process. Individuals separated by both time and space can participate in a decision-making process as memos or emails are sent back and forth.
- Consistency is apparent in both the message and in the communication channel. Even though each person reading a document might interpret it a little differently, they have received the *same* message and will have a common starting point for discussion. The reliability of written channels allows the effective functioning of control systems, which

depend on the consistent recording of key measures, as well as more robust chain of command that is maintained through written channels.

- Business writing is characterized by its precision, both linguistic and logical. The process of creating the clear, concise prose that business readers expect forces a writer to clarify his or her ideas. Readers are better able to understand and act on the carefully organized ideas of a written document, and writing is often used within organizations to insure that the decision-making process is complete, careful and accurate prior to taking any action.

The decision-making importance of documents becomes most apparent when they fail. When people neglect to prepare the reports and documentation the company needs to operate, or individuals cannot easily interpret and use them for communication, the efficiency and effectiveness of the entire organization can suffer.

Oral Discussion as a Decision-Making Tool

Given the significant advantages of written communication, it is perhaps surprising that the bulk of managerial decision-making is oral (Mintzberg, 1975). For most practicing managers, the time and care required to create written documents is simply more than they can spend in the whirlwind of day-to-day activities. Instead, most decisions are made “on the fly” as small groups of individuals meet, consider a problem and its potential solutions, and agree on a plan of action.

Oral decision-making is particularly useful in facilitating an *exchange of information*, and in *contextually grounding* decisions.

- By definition, an oral communication event involves the give and take of a conversational exchange. The immediacy of feedback, including the subtle physical cues that indicate confusion, disagreement or support, allows communicators to quickly verify that information has been successfully exchanged. Further, the strongly social component of oral conversation allows the exchange of far more information about organizational relationships, social or ethical values, and changing environmental conditions, which can dramatically impact the ultimate success of a decision.
- Oral communication is further distinguished from written texts by its grounding in the immediate context of the participants. While it is possible to engage in “objective” and “unemotional” discussions that utilize the carefully constructed arguments that are expected in literate documents, most people have great difficulty maintaining that type of “formal” communication for any length of time. Oral decision making is instead characterized by a use of personal narratives, examples and experiences that insure that choices will reflect the more immediate concerns of those who are physically present.

Visual Communication as a Decision-Making Tool

A visual diagram can be particularly helpful when it comes to explaining relationships between facts, things or idea. Words are a basic part of communication, but they come out in a long, long string. That can make it difficult to see the connections between something said in the first paragraph and something said in the last paragraph. A writer or speaker has to provide a new paragraph to explain the relationship—perhaps after the reader or listener has already forgotten the details of the first paragraph.

Label all data clearly and completely. Include labels for all elements of the graph, but don't allow labels, gridlines or legends to distract from the data itself. Delete non-relevant information from illustrations so as not to distract the audience. Be very, very careful, however, with truncated information, charts that change scale or order of items, and anything else that misrepresents the data. Avoid such situations if possible, but if you absolutely must distort a graph for any reason, carefully label the adjustments.

Charts

Charts included in visual presentations are not designed to include the most information, but rather to make a visual point with the form rather than words. As a rule of thumb, never start with the chart. Do enough audience analysis to know what the audience will be looking for in the data, and then choose a format that serves the information.

Selecting the “right” chart to present your statistics is not a mathematical question. You must decide what point you are trying to make and then select the visual display that helps you make it.

Lets say you have some numbers regarding sales trend in your industry. Raw numbers do NOT make an acceptable presentation visual. If you have to explain the visual to your audience, it's not aiding you at all!

Say you want to make the point that sales have changed dramatically in the past couple of months; a line graph would be appropriate.

Or, maybe you are interested in showing that your own department's product is doing better than other items in the mix. A bar chart could help your audience visualize that relationship.

Then again, your point might be that your products are still producing profits, and it's a pie chart that will help you make the audience “see” the sales picture clearly,

Don't simply select the first chart on the Excel tool bar! Use the graphical representation to make your point visually.

Whatever chart you select, use builds to bring in pieces of data as you present them. This allows the audience to focus attention on specific pieces of information (Schatz, 1997 35).

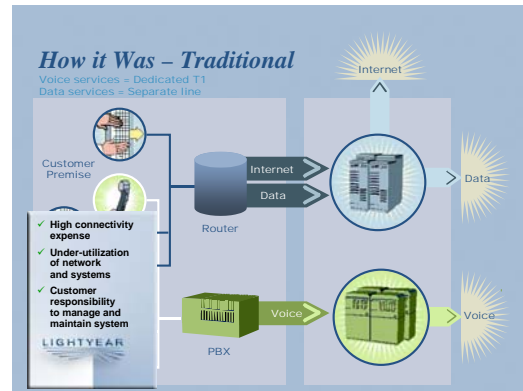
Some of the rules of written documentation regarding complete labeling, citations and legends are not appropriate in a presentation context. Charts made for the screen should contain only essential information with detail, sources or nuances provided in handouts (Hill, 2001).

Graphs

The range of visual information a speaker can provide with a graphical representation is limitless. Processes, interrelationships and abstract ideas can never be illustrated with a photograph, but a few simple shapes and lines can explain complex processes to an audience.

A complicated production operation is explained with an animated chart that highlights each element of the process as the speaker explains it.

Creating exceptionally helpful graphs of abstract ideas is not an easy process; those who are good at helping an audience visualize a difficult process or concept are justifiably considered eloquent leaders. For most presenters, the task is not to create a graph, but to locate those graphics and illustrations that make the ideas simpler for an audience to understand. Often, a simple drawing or diagram is available, which can be enhanced with the aid of the computer art features of presentation software.



When good slides go bad...

All rules can be broken. Executive consultant Granville Toogood names a couple of times when a really bad visual can help achieve the speaker's communication purpose:

Use easy to understand graphics for the good news, of course, but when the news is bad, use dense, hard-to-read tables. The audience won't be able to quickly apprehend the information, and you'll have a chance to explain it your way.

Cram a slide with data when you want to impress the audience with the complexity or enormity of an issue. The listeners won't understand it at all, which, of course, causes them to perform the point you are trying to make.

Graphical Conventions

Business audiences expect to see certain kinds of information and relationships portrayed visually, and your message clarity depends on meeting those expectations. Use outlines, colors and shapes to clarify relationships, and use consistent styles, format, fonts, colors so that the relationships are not confused. Use graphs to convey what they convey best, using conventional systems to show relative importance of information.

On a map, for example, the big fat lines are the big roads and the skinny little broken lines are secondary roads. If you violate that expectation with fat lines for the least important information, your audience will be confused, no matter how carefully you've labeled your graph.

Numerical Relationships

When your information is about the relationships among numbers, you will generally pick certain numbers out of a table and demonstrate that one is bigger than, less than, or changes in line with another.

When complete numerical data is being provided for later use, a **table** is generally used. A table is designed to line up the numbers up so a reader can locate the exact data needed for his or her purposes. Use rules to separate major categories of information. Use bold fonts or shadings on titles for clarity, and lots of white space. Clearly label all tables and sections of tables.

table The classic table used to display numerical data in a written document (see Chapter Two) will virtually never function as an effective visual in an oral performance. There are situations, though, where words or numbers can be arranged in a grid of some kind to demonstrate relationships that occur in timetables, flow charts, or calendars, which provide an easily recognized way of categorizing information.

To create a visual table, you will discard the “grid” found in a written table and guide the eye instead with arrows, animation or color. Remove any words or numbers that are repeated or that don’t need to be seen or discussed (Wilder, 2000 30), and then add a title that clearly explains the point of the numbers (Fine, 1998 40).

Be Conventional *Time always goes in a row, not a column.*

Be Cautious *The fewer lines the better, and it is best to have only one data series. Use an axis scale or data points but not both. Remove details, grid lines footnotes and other details that detract from the main point (Fine, 1998). Three dimensionality has been shown to result in more difficulty in the interpretation.*

With business’s heavy reliance on objective, numerical information, it is no surprise that visual displays of information are an important element of professional, “businesslike” communication. “The days of overhead visuals and plain bullet-point slides are numbered,” says one professional speaker, and audiences have come to expect “movement, pictures, color and visual stimulation” (Lynne Lancaster, quoted in Hill, 2000 45).

line graph The simple line against a background of applicable units is best to show trends or point out changes over time (i.e. growth or drop in sales) rather than an analysis of the numbers themselves. Don’t use a line graph if the line doesn’t actually show the trend visually (Hill, 2001).

A single line shows a trend, which is typically plotted with time units as the horizontal. Lines can also show the interaction of two variables. More than three or four lines is not usually informative as a visual display. For multiple relationships, you might need to prepare multiple graphs.

A surface chart can create a visual comparison of both the “most important” element against a base line *and* the relationship of that element to others that it influences. [see surface chart on PowerPoint toolbar]

Be Conventional *Always place time units on the bottom.*

Be Cautious *It is possible to show multiple lines on a graph, but anything more than two or three is likely to require the same type of concentration as a table and is thus unsuitable for a visual presentation.*

Bar graphs Show comparisons between quantities or sets of quantities with a bar graph. Horizontal bar graphs can show differences across time, which is always plotted on the horizontal axis. Segmented bar graphs show comparison of the parts as wholes; clustered bar graphs show the comparison of parts across wholes. More than ten or twelve columns is not visually informative.

Don't use an extra bar to indicate composite categories, trends, or averages. People don't visualize totals as another item in a set, and all bars on a graph should represent like items. For a visual representation of totals, provide a line superimposed over the bar graph, or an inset of another more appropriate visual, such as a pie chart.

column or bar chart A series of colored segments can visually compare quantities. These charts are best used when the point is the figures rather than the flow or trend. Use a line chart instead if the trend, rather than the numbers, tells the story, or when there are so many numbers the bars are too thin (Hill, 2001). Columns are also used to demonstrate frequency of an occurrence in terms of some category (including time categories).

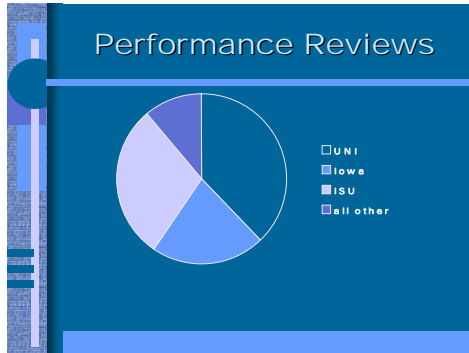
- Clustered bar charts show the differences among quantities along some common variable. [see a clustered bar on the PowerPoint toolbar]
- Segmented bar charts can be used to show the relative proportion of components among several wholes, rather like lining up a series of pie charts, but a much better way to help the audience visualize the comparison. Rather obviously, this is the only way to compare “wholes” that are themselves changing in size, or quantities that do not add up to a whole 100% of anything. [see a segmented bar on the PowerPoint toolbar.]
- Bilateral bar chart shows pluses and minuses away from a baseline quantity, usually zero or the “no change” current value.
- Horizontal bars used when time is the measure; keep it horizontal by turning the whole graph. Bars can be used to show correlations, deviations from a standard, as well as clustered and segmented data, as with columns. Horizontal bars generally give sufficient room for clear labels, will generally provide the cleanest, clearest visual image, and is generally the most versatile and useful option (Zelazny, 1991 26). [see a horizontal bar on the PowerPoint toolbar.]

Be Conventional Data bars are always bigger than spaces between them, and categories fill up the available space. Use horizontal bars, if necessary, to make sure that a time dimension always runs across the bottom of the chart. Arrange your data so that the heights or lengths fall in order of size.

Be Cautious The vertical dimension on a bar chart is not a scale, and you aren't simply turning a good column chart on its side for a different visual effect. Test a column chart to make sure the viewer does not assume an unintended time dimension; if so, use a bar chart instead.

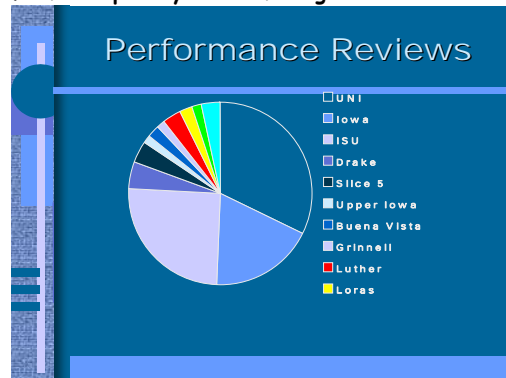
pie chart A circle cut up into pie slices illustrates the relationship of parts to a whole. People are not impressed by comparisons within a pie chart. A viewer can “see” relative size in a bar chart or the up and down trend in a line graph with just a small difference, but it takes a very large difference in the area of a pie graph to make a visual impact. The pie chart an excellent way to show how big something is in relation to the whole,

especially if the pie parts are bigger than a typical pie slice. Don't simply include all the data points in your pie chart. Select the elements you want to showcase, and limit the pie to a maximum of five or six slices, combining any smaller units into one "others" slice (Zelazny, 1991).



This chart focuses on the main points you want to make.

This one includes all the data available, but it distracts from the point you are making.



You can animate the pie slices to further emphasize the way in which the parts "complete" the whole. Show the rest of the company with a gaping hole, for instance, and then complete the profit pie with your own product sales.

Be Conventional The largest pie slice is generally started at the 12 o'clock position, with decreasing sizes arranged clockwise around the circle. Use the most visible colors on the slice that makes your point.

Be Cautious Students tend to greatly overuse pie charts, and even in business settings they are the most abused (Zelazny, 1991 29). Be very careful that you are actually comparing a part to its own whole, and that the whole is really 100% of something meaningful. A test audience ought to be able to guess fairly accurately, from the picture alone, what the percentages are that you are showing in the pie slices.

Time

Any information involving time must follow the timeline and calendar conventions of the business environment. Time is always shown from left to right across the horizontal field of vision. Regardless of the type of table, graph or diagram you choose, dates or hours will generally flow from past to present to future. Business audiences are generally familiar with calendars, time sheets and Gantt charts. Use them properly to achieve maximum clarity.

Conceptual Relationships

Part-to-whole relationships are often represented with pie charts, which should not generally be used for representing anything except a part-to-whole relationship. The whole pie must always represent 100% of something (Cleveland), and more than six or eight pie pieces is not visually informative.

Cause-effect relationships can be visualized in the form of a syllogism, or with directional arrows to demonstrate an if-then relationship. Be cautious when attempting to visualize multiple causations. If all the arrows are provided, the visualization becomes confusing, but too much simplification can leave an audience unaware of a situation's complexity.

Spatial relationships are represented with maps, blueprint diagrams, or cutaway views of an object. [insert example; office complex]. Convention requires that North always be shown at the top of the page or slide. Even when preparing a small map of an office complex or directions to a company function, viewers will be confused by violations of this rule.

Dimensions of objects must be correct in relation to each other, unless clearly noted for the viewer. Distortions can, however, convey a great deal of information when used to illustrate spatial relationships.

Organizational relationships are traditionally shown with organization charts, which reflect the hierarchical nature of most businesses. If the relationships are not hierarchical, be careful not to use the traditional format.

Processes are generally represented with flow diagrams of some kind. The convention is to show motion from left to right, corresponding with an unstated timeline that extends from left to right. In general, an audience will assume blocks of equal horizontal size to require the same amount of process time.

Quantities are more difficult to accurately portray graphically. “we are perceptual animals, not we excel in seeing patterns, not in forming accurate numerical comparisons from those patterns. Our estimates are most accurate for line lengths—the bar graph—because judgments of line lengths are reasonably accurate, increasing linearly with the physical length of the line” (Norman, 1993 95)

Chapter Notes

- Ashcroft, K. L. (2001). Organized Dissonance: Feminist Bureaucracy as Hybrid Form. *Academy of Management Journal*, 44(6), 1301-1322.
- Axelrod, R., & Cohen, M. D. (1999). *Harnessing Complexity: Organizational Implications of a Scientific Frontier*. New York: Free Press.
- Cleveland, W. (1985). *The Elements of Graphing Data*. Monterey, CA: Wadsworth.
- Fine, D. (1998, June). Chart a Clear Course for Better Financial Graphics. *Presentations*, 12, 40-41.
- Gharajedaghi, J. (1999). *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture*. Boston: Butterworth Heinemann.
- Hill, J. (2000, November). Changing Faces: Facing Change. *Presentations*, 14, 42-50.
- Hill, J. (2001, March). The Charting Game. *Presentations*, 51-54.
- Ireland, R. D., & Miller, C. C. (2004). Decision-making and firm success. *Academy of Management Executive*, 18(4), 8-12.
- Martin, M. H. (1997, 27 Oct). The Man Who Makes Sense of Numbers. *Fortune*, 273-276.
- Mintzberg, H. (1975). The Manager's Job: Folklore and Fact. *Harvard Business Review*, 53(4), 49-61.
- Mumby, D. K., & Putnam, L. (1992). The Politics of Emotion: A Feminist Reading of Bounded Rationality. *Academy of Management Review*, 17, 465-486.
- Norman, D. A. (1993). *Things That Make Us Smart: Defending Human Attributes in the Age of the Machine*. New York: Addison-Wesley.
- Schatz, S. C. (1997). Make Your Slideshows Interactive with Branches and Buttons. *Presentations*, 33-35.
- Stacey, R. D., Griffin, D., & Shaw, P. (2000). *Complexity and Management: Fad or Radical Challenge to Systems Thinking?* London: Routledge.
- Weick, K. E. (1995). *Sensemaking in Organizations*. Thousand Oaks: Sage.
- Wilder, C. (2000, October). Chart only as much data as your audience needs. *Presentations*, 30.

Yates, J. (1989). *Control Through Communication: The Rise of System in American Management*. Baltimore: John Hopkins Press.

Zelazny, G. (1991). *Say It With Charts* (2nd ed.). Homewood, IL: Business One Irwin.