CHAPTER 19

INFORMATION SYSTEMS

APPROACH TO ORGANIZATIONS

Outline

I. Introduction.
   A. Karl Weick focuses on the process of organizing rather than the structure of organizations.
   B. He equates organizing with information processing.
   C. His model of organizing describes how people make sense out of confusing verbal inputs.

II. Organizing: making sense out of equivocal information.
    A. Uncertainty denotes a lack of information.
    B. Equivocality refers to situations where at least two interpretations are equally valid.
    C. When information is equivocal, people need a context or framework to help them sort through the data.
    D. Face-to-face interaction is crucial when an organization faces equivocal information.

III. Sensemaking in a loosely coupled system.
    A. Universities are loosely coupled, which is to their advantage.
    B. Requisite variety is the degree of complexity and diversity an organization needs to match the level of equivocality of the data it processes.
    C. Since universities handle complex information they will fail at sensemaking unless they are loosely coupled.
    D. Weick prefers biological over mechanical models of organization.
    E. The basic unit of interconnectedness is the double interact.
       1. It consists of three elements—act, response, and adjustment.
       2. Its importance is why Weick focuses more on relationships within an organization than on an individual’s talent or performance.
    F. The university illustrates double interacts in a loosely coupled system.
       1. Individual departments and units on campus are not closely connected.
       2. Loose coupling allows the university to absorb shocks, scandals, and stupidity.

IV. Organize to survive in a changing environment
    A. Weick applies Darwin’s survival-of-the-fittest theory to organizations.
    B. The ultimate goal of an organization is survival.
    C. Some people organize in a way better adapted to survive than do others.
    D. Unlike animals, organizations can change when their members alter their behavior.

V. The three-stage process of social-cultural evolution.
    A. Social-cultural evolution is a three-stage process: enactment, selection, retention.
    B. Enactment: don’t just sit there; do something.
1. Organizations have open boundaries with the outside environment, which they partially create through their activity.
2. The failure to act is the cause of most organizational ineffectiveness.
3. Weick believes that action is a precondition for sensemaking.
4. Language is action, which is why organizations need to have many meetings.
C. Selection: retrospective sensemaking.
   1. Selection is aided by two tools—rules and cycles.
   2. Rules—stock responses that have served well in the past and have become standard operating procedure—are effective when equivocality is low, but fail to clarify situations when many conflicting interpretations are possible.
   3. The act-response-adjustment cycle of the double interact is more effective in situations of high equivocality.
   4. As cycles increase to handle complex data, reliance on rules decreases.
   5. Two studies confirm Weick’s hypotheses about rules and cycles.
D. Retention: treat memory as a pest.
   1. Retention is the way organizations remember.
   2. Too much retention creates a network of rules that reduces the flexibility necessary to respond to complex information.
   3. However, some degree of collective memory is necessary to provide stability for the organization.
   4. Weick seeks an ongoing tension between stability and innovation—managers should not overemphasize past experience.
   5. Organizations fail because they lose flexibility by relying too much on the past.
VI. Critique: the strengths and weaknesses of metaphor.
   A. Weick makes his theory interesting with provocative metaphors, vivid examples, and startling statements.
   B. His sociocultural application of Darwin’s theory shares the advantages and disadvantages of all metaphors.
      1. The metaphor vivifies and explains a difficult concept.
      2. Unfortunately, it becomes ideology if taken too far, justifying cutthroat capitalism or quashing all conflict.
   C. Some managers criticize Weick’s quick-draw managerial approach.
   D. Nonetheless, he defends the position that any strategic plan is better than inaction.

**Key Names and Terms**

*Karl Weick*
A professor of organizational behavior and psychology at the University of Michigan and champion of the information systems approach to organizations.

*Organizing*
A way to make sense out of equivocal information.

*Uncertainty*
A lack of information that requires one to seek more facts.
Equivocality
Situations where people face the choice of two or more alternative interpretations, each of which could reasonably account for what’s going on.

Requisite Variety
The degree of complexity and diversity an organization needs to match the level of ambiguity of the data it processes.

Loose Coupling
A characteristic of some systems in which causal inference is difficult because relations are mediated, intermittent, dampened, and delayed; typically, different parts of the system have a widespread yet marginal effect on each other.

Tight Coupling
An organizational system in which the feedback loops of the double interacts of one part of the system are tightly connected with those of other parts of the system.

Double Interact
A communication cycle that consists of act, response, and adjustment.

Charles Darwin
A nineteenth-century biologist whose theory of evolution serves as a metaphor for Weick’s systems approach to organizations.

Enactment
Proactive communication in which members of an organization invent their environment rather than merely discover it; action that is a precondition for sensemaking.

Open-System Theory
For organizations, the environment is as much an output as it is an input.

Selection
The interpretation of actions already taken; retrospective sensemaking.

Rules
Stock responses that have served well in the past and have become standard operating procedure. They are effective when equivocality is low.

Cycles
Double interacts best employed in situations of high equivocality.

Retention
The way organizations remember.

Principal Changes
Previously Chapter 18, this chapter has been edited for clarity and precision. In addition, the Second Look section has been updated. Otherwise, it remains essentially the same.
Suggestions for Discussion

Weick’s theory as innovative and provocative

When discussing Weick’s work with your class, it’s very important to emphasize the bold iconoclasm with which he writes about organizations. Weick’s unorthodox, revolutionary pronouncements and innovative, artful metaphors are as captivating as they are controversial. To reinforce this point, you may wish to read or summarize the delightful music analogy Weick marshals in his artful article, “Organizing Improvisation: 20 Years of Organizing,” which Griffin includes in his Second Look section. Share with your students his daring approach to improvising. Weick’s “Act, then think!” approach creates a wonderful counterpart to the methodic rationality of the functional perspective. If you teach these two chapters back to back, in fact, make the most of the differences. Integrative Essay Question #30, below, provides a vehicle for such comparisons.

In an interview on Bravo’s “Inside the Actor’s Studio,” Mike Meyers describes how important it is to keep writing despite feeling uninspired or experiencing writer’s block. He states that it is better to write poorly and revise it later than to not write at all. He tells a story of Bill Murray’s writing days for the comedian Gilda Radnor. When uninspired moments arose, Bill would write his stuff and then write, “and then Gilda does something funny.” It strikes us that Mike’s comments mirror Weick’s “Act, then think!”

Interpretivism in contrast to scientific certainty

Integrative Essay Question #29 below seeks to explore the connection Griffin establishes between Weick’s approach to sensemaking and the basic tenets of information and uncertainty reduction theories. Like Shannon and Weaver and Berger, Weick is concerned with the ways in which people gather and process information in order to reduce uncertainty/equivocality. Unlike these more empirical researchers, though, Weick is less concerned with scientific precision. He avoids both the simple elegance of Shannon and Weaver’s model and the axiomatic rigor of Berger’s theory. In fact, Weick’s view of organizational communication is intentionally amorphous; by focusing on the act of organizing rather than the structure of organization, he leaves behind the concrete for the abstract. Weick’s belief in the efficacy of action demonstrates a Jamesian faith that transcends scientific certainty. There is a humanist’s flair to his work—characterized by a fondness for paradox, an urge to challenge intuition, to doubt, and to exercise skepticism, a willingness to forego certainty, and an interpretive agility—that distinguishes him from his more scientifically minded colleagues.

In addition, his interest in the ongoing tension between stability and innovation gives his work a dialectical feel reminiscent of Baxter and Montgomery’s approach to interpersonal relationships (see Integrative Essay Question #32 below). It should not come as a surprise, thus, that in the concluding chapter of A First Look at Communication Theory, Griffin places Weick in the fourth category of his theoretical continuum, far to the right of Shannon and Weaver and Berger, who are firmly located in the first category. In the privacy of our own study—with only you watching—we might position Weick in the middle position of the continuum, but we entirely agree with Griffin that significant theoretical distance exists between Weick and the strict empirical camp.
Tightly and loosely coupled organizations

In the textbook under Questions to Sharpen Your Focus, question #3 features an element of the systems approach that Griffin is not able to discuss in detail during the chapter—the tightly coupled organization. Essay Question #22 below, which further probes the potential advantages of tight coupling, may serve as a useful follow-up question in this discussion. It is important, it seems to us, for students to see that tight coupling can—depending on the particular features of the organization in question—be an invaluable structuring principle. For example, many organizations that specialize in routinized, yet intricately interrelated and highly time-sensitive transactions and procedures require the coordination created by tight coupling.

Essay Question #21 below takes up the potential disadvantages of loose coupling. What happens, for example, when a university is criticized or threatened financially by an outside source such as a legislative body or governing board? Although the president of the institution will offer his or her official response, the school as a whole lacks the organizational coherence to respond with one voice and action. Thus, it may appear weak and ineffectual in the eyes of outsiders. This may be one reason many universities receive so much flak these days. A tightly coupled corporation, however, may be able to respond more decisively and uniformly to criticism from beyond its walls, thus giving the appearance of control, discipline, and direction.

Connections to adaptive structuration

Based on the layout of the textbook, it is likely that you will teach Poole’s adaptive structuration and Weick’s information systems theories back to back. We suggest you capitalize on the opportunity as the theories bear a considerable resemblance to each other. For both theorists, reality, whether in a small group or an organization, is a dynamic occurrence—people create reality as they experience it. To do so, people sometimes fall back into existing patterns and at other times they seem to “make it up as they go along.” Poole and Weick incorporate this changeability into their theories, and in doing so can explain either when things remain status quo or go in a new direction, a strength of each theory. You might want to discuss with your students other areas of overlap such as the enactment-selection-retention cycle’s link to the duality of structures. Finally, ask your students to speculate on what rules and resources help us to organize. Integrative essay question #33 below picks up on this theme.

Weick in small businesses

On occasion, we have encountered students who are frustrated with Weick’s counterintuitive claims based on either their own or their parents’ experience as a small business owner. We have found it very interesting to engage students in a discussion about what effects Weick’s suggestions would have on the local, family business. Does it make good, responsible business sense to do something and figure it out later? With the encroachment of big business and corporate establishment on Main Street America, would a failing businessperson do better by identifying options and weighing them carefully before acting or by making a bold, yet uncertain step forward? For Weick, these actions may not be contradictory as the assembling of new information and developing a plan of action serves to reduce uncertainty and equivocality. Taking no action and ignoring one’s eroding business is a
fatal flaw in organizations according to Weick, but is it fair to say that a business owner’s act may be to gather information upon which to get a response and to adjust?

Continuing with the theme of small or local businesses, you may want to discuss with your students the comfort of familiarity. Weick argues that organizations would do better to shed the known in favor of the innovative (286), but for some businesses sameness may be its greatest asset. Like going into an old five-and-dime store that has everything or a restaurant that hasn’t updated the interior in 20 years, people are drawn to places that are “just like I remember it.” If there is a local establishment near your school that falls into this category, you might consider asking your students how Weick’s ideas about retention might alter this local institution.

A trick question

Essay Question #28 below may be a bit of a trick. The best answer to this either/or query is that it constitutes a false dilemma. As Griffin tells us, “Symbolic interaction is action. Whenever managers say something, they are actually creating a new environment rather than merely describing a situation” (284). Thus, the most successful response should begin by setting the questioner straight.

Sample Application Log

Brian

Each person employed by media production services, myself included, is carefully trained on how to run sound in Edman Chapel. Often, we are given specific instructions about what microphones to set up where so that everything is set long before the client shows up. Sometimes when the client arrives they have changed their mind about how they want things set up. When the scenario is cut and dried as to what we can and cannot do, we tend to rely on past rules. More often than not, the situation requires a judgment call; in this case we look to the cycle of act-response-adjustment. As we talk further with a client about what they want, we reduce equivocality and are better able to adjust. However, I am often tempted to remember how I’ve seen my boss act in similar situations and construct a network of rules about how I should act. According to this theory, this means that I’ve lost some flexibility in dealing with problems and will not be able to adjust as quickly as I should.

Exercises and Activities

Retention and collective memory

Weick suggests that managers should “treat memory as a pest” (286). To discuss this issue within the context of your university or college, ask students to come up with rules that your institution has adopted or tacitly practices for which no good reason can be found—either because none ever existed or because no one can remember the original rationale. On some campuses students might wonder why classroom desks are set (sometimes bolted to the floor) in rows when discussion is the major form of interaction; why people wear black robes, hoods, and funny hats to graduation and convocation; why first-year students are not allowed many of the freedoms given other students; why the regular school year lasts only nine months; why athletes are granted special privileges; why English composition is required, yet courses in
public speaking and listening are not; why many coaches are paid more than renowned professors; and why grades are so important. To be balanced, of course, it’s important to emphasize the counterpoint that some degree of collective memory is necessary to provide stability for the organization. Students should be able to provide examples of instances in which your institution calls upon retained knowledge to help itself respond intelligently to problems. The same line of inquiry can be conducted with respect to smaller organizations to which students belong such as sororities, fraternities, churches, and families. (Essay Question #27 below addresses the issue of retention.)

**The organizing of families**

It may be revealing, in fact, to ask your students to imagine parenting in terms of managing. How do double interacts function within the family structure? Is “Act, then think!” an appropriate guideline for parental decision making? Encourage them to draw on their own family experiences as they respond to such questions.

**Double interaction and connections to interactional view**

When Em Griffin teaches this chapter, he uses Weick’s approach to analyze his own college. He asks students to discuss how buildings are named, how professors’ names are listed in the catalog, and so forth. He also makes a particular point of emphasizing—and exemplifying—the assumption that survival is a more important goal than the stated aims of an organization (282). He stresses that you absolutely must demonstrate the concept of the double interact for them, using an example of your own to reinforce the book’s treatment. Finally, he likes to use the interactional view as a way of characterizing the systematic approach championed by Weick. Just as family systems are comprised of intricately related individuals, so organizations are built of a network of relationships. In both contexts, one cannot understand a problem in isolation, but must look at the complex web of relations inherent in any situation.

**Pictionary®, the Weick way**

Here’s an exercise from Carey H. Adams of Southwest Missouri State University that you may wish to try:

**How Do I Know What I Think Until I See What You Draw?**

An Experiential Game for Teaching Karl Weick’s Model of Organizational Sensemaking

**Learning Objective:** To illustrate Karl Weick’s concepts of equivocality and the enactment-selection-retention process of equivocality reduction.

**Materials Needed:** 25-30 drawing tasks, as in the game Pictionary®
Large drawing surface and writing utensils (e.g., whiteboard, flip chart)
Paper and writing utensils for participants

**Group Size:** 10-25

**Time Required:** 45-60 minutes
**Instructions**

Choose four people to serve as artists. These four artists will rotate drawing clues. Place remaining participants in groups of 3-4. Explain that participants will be playing a game similar to the popular Pictionary® but with several modifications. The rules of the game are as follows:

1. Each artist will be given a list of 8-10 drawing tasks. They will rotate drawing one picture at a time. Artists may choose to draw their tasks in any order, and artists may consult with one another.
2. Artists will draw each picture in its entirety before players are allowed to guess aloud. When the artist is done, he or she sits down.
3. After the artist sits down, participants may discuss the drawing and generate guesses. Note: Although participants are seated in groups of 3-4, no instructions are given regarding whether they are to play as teams or as an entire group. Participants may discuss the drawing any way they choose, but they may not communicate directly with the artist.
4. Participants can generate as many guesses as they like, but final guesses are to be held until the end of the game (i.e., when time is called, participants will be asked to list all of their guesses at one time).
5. Participants will indicate when they are finished discussing the drawing. At this point, the artist may choose to modify his or her drawing based upon the group's discussion. The artist also may choose to leave the drawing as is.
6. After the artist passes or makes modifications, participants may discuss the drawing one more time. At no time may the artist indicate in any way whether players have guessed correctly.
7. Drawing rules:
   a. No talking by the artist.
   b. No nonverbal indicators by the artist (e.g., head nods, pointing, etc.).
   c. No letters or numbers allowed in drawings.
   d. The facilitator may disallow pictures for any rule violation.
8. Announce a time limit for the game (typically 30-40 minutes). Note: It may take the group a few minutes to get into a rhythm, and enthusiasm will build as the game progresses. In this case, you may want to extend the time limit as the round nears completion.
9. Announce that players will be rewarded according to the following formula:
   \[
   \text{# answers } \times \ 0.5 \times \% \text{ correct answers} = \text{points}
   \]
   Points may be extra credit, participation points, or some other reward.

   Ex: 24 answers x .5 x 75% correct = 8 points

10. Players and artists can develop any strategy they choose within the rules of the game.

**Applications**
- Drawings represent equivocality, i.e., inputs with multiple plausible meanings.
- Guessing is enactment, i.e., bringing inputs into the field of perception and interpretation; perceptions of drawings are shaped by initial and subsequent guesses.
- Processing of inputs leads to selection of relevant information.
Useful information is stored in retention for future guesses, e.g., players begin to recognize elements of artists’ drawing strategies; artists develop strategies they perceive as effective and use them repeatedly.

Easy pictures are solved quickly using assembly rules, e.g., some pictures are easily recognizable; a familiar format is quickly recognized and used by players.

Players engage in communication cycles when sufficient assembly rules are not available and/or inputs are highly equivocal, e.g., discussion is more extensive, more guesses are generated, or more disagreement over guesses is expressed.

The entire game demonstrates the reduction of equivocality.
  - Players enact their environment by choosing strategies and establishing game procedures.
  - Players must find a way of retaining rules and information for use in making final guesses.

Artists also are reducing equivocality.
  - Drawing is enactment.
  - Recognizing what clues are understood is enactment.
  - Retaining what has worked and using it again or building on it is retention.

Some words and pictures are more equivocal than others, i.e., they present a greater number of equally acceptable interpretations or meanings.

Discussion Questions for Debriefing

- How did the absence of feedback affect you?
- Did you choose speed or accuracy as a strategy to gain the most points? How did you arrive at that choice? How did that choice affect the way you approached the game?
- Did artists’ second attempts tend to increase or decrease equivocality? Why?
- What system did players devise to deal with equivocality?
- (If the facilitator told players the categories for drawings, e.g., place, person, action) Did telling you the drawing category always help reduce equivocality? Why or why not?
- What strategies were retained? Why?
- If you could play the game again, what would you do differently?
- Did the group ever talk itself out of right answers? How did that happen? Did more talk create more equivocality?
- Did assembly rules always work? Did they sometimes cause more confusion than they relieved because they didn’t seem to fit the drawing? For example, artists often will use the “sounds like” symbol of an ear, but a difficult “sounds like” clue may distract players from a more straightforward visual clue.
- Was there enough participation among players?
- Did artists’ adding to their drawings sometimes create more equivocality than it reduced?
- What kinds of feedback did players and artists use?
- What effect did being seated in groups have on players? Did they assume they were in competitive teams? Did they ignore the fact that they were in “groups”? Did players discuss why they were in groups?
- What was the most equivocal drawing? What made it equivocal?
- How did artists choose clues to draw? Did they change their strategies as the game progressed?
- To what extent did players rely on assembly rules vs. communication cycles? Why?
Further Resources

- For recent writings by Weick, see:
  - In their 2001 book, Managing the Unexpected: Assuring High Performance in an Age of Complexity (San Francisco: Jossey-Bass), Weick and Kathleen Sutcliffe examine how high reliability organizations such as aircraft carriers and firefighting crews organize themselves in such a way as to manage the unexpected.

Sample Examination Questions

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