Lecture (6)
Organizational Dimensions of Information

The Organizational Dimensions of Information includes information flows, information granularity, and what information describes.

A.   Information Flows

Information in an organization flows in four directions: up, down, horizontally, and inward/outward. To consider these flows, let's briefly review the structure of an organization. Most people view a traditional organization as a pyramid with four levels and many sides (see Figure 12). From top to bottom, the levels are:

- Strategic management, which provides an organization with overall direction and guidance.
- Operational management, which manages and directs the day-to-day operations and implementations of the goals and strategies.
- Tactical management, which develops the goals and strategies outlined by strategic management.
- Non-management employees, who actually perform daily activities, such as order processing, developing and producing goods and services, and serving customers.

If you consider your collage as an example, strategic management might include the chancellor, president, and various vice presidents. Tactical management would include the deans. Operational management would include the department chairs and directors of academic programs. The final level would include instructors who are responsible for teaching your classes.

Figure 11: Structure of traditional organization as a pyramid

Information that flows upward, or the **upward flow of information**, describes the current state of the organization based on its daily transactions. When a sale occurs, for example, that information originates at the lowest level of the organization that then is passed up through various levels of management. Information that is gathered as a part of everyday operations is consolidated by information technology and passed upward to decision makers who monitor and respond to problems and opportunities.

The **downward flow of information** consists of the strategies, goals, and directives that originate at one level and are passed to lower levels. Many organizations are taking advantage of collaborative technologies and systems to share and move this type of information.

Information that flows horizontally, or the **horizontal flow of information,** is between functional business units and work teams. For example, at your school various departments are responsible for scheduling

courses. That information is passed horizontally to the registrar's office, which creates a course schedule for your entire campus (which may be online— timely and accessible from anywhere by you). Again, collaborative technologies and systems support the horizontal flow of information.

Finally, the **outward and inward flows of information** consist of information that is communicated to customers, suppliers, distributors, and other partners for the purpose of doing business. These flows of information are really what electronic commerce is all about. Today, no organization is an island, and you must ensure that your organization has the right information technology to communicate with all types of business partners.
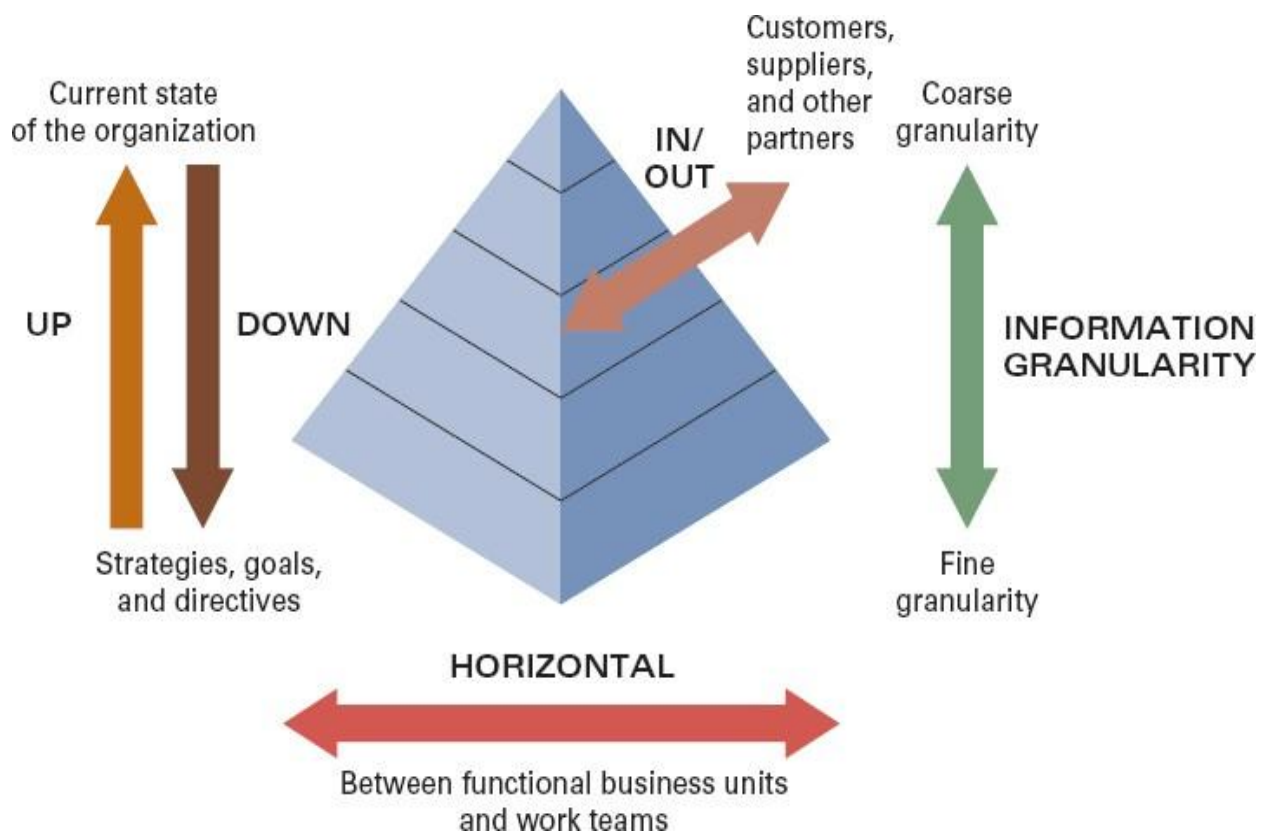
Figure 12: An Organization, Its Information Flows, and Information Granularity

B. Information Granularity

Figure 12 also illustrates another dimension of information. **Information granularity** refers to the extent of detail within the information. On one end of this spectrum is coarse granularity, or highly summarized information. At the other end is fine granularity, or information that contains a great amount of detail. Peoples in the highest levels of the organization deal mainly with a coarse granularity of information, with sales by year being an example. People in the lowest levels of the organization, on the other hand, need information with fine granularity. If you consider sales again, non-management employees need information in great detail that describes each transaction when it occurred, whether by credit or cash… "Who made the sale, to whom that sale was made", and so on.

So, when transaction information originates at the lowest level of an organization (with fine granularity), it is consolidated by IT to a coarser granularity as it moves up through the organization (the upward flow of information).

C. What Information Describes

Another organizational dimension of information is what the information describes? Information can be internal, external, objective, subjective, or some combination of the four.

- Internal information describes specific operational aspects of an organization.
- External information describes the environment surrounding the organization.

- Objective information quantifiably describes something that is known.
- Subjective information attempts to describe something that is unknown.

Consider a bank that faces a decision about what interest rate to offer. That bank will use internal information (how many customers it has), external information (what rate other banks are offering), objective information (what is today's prime interest rate), and subjective information (what prime interest rate is expected in the future). Actually, the rate other banks are offering is not only external information (it describes the surrounding environment) but objective information (it is quantifiably known). Information often has more than one aspect to it.

As a general rule, peoples in the lowest level of the organization deal mainly with internal and objective information. People in the highest levels of the organization, on the other hand, deal with all types of information.