

In the previous example, individuals were assigned to training classes according to ability and experience. Alternatively, however, all individuals could have been assigned to a single training class regardless of ability or experience. Before choosing one of these strategies, let's compare them in terms of some possible outcomes.

If the trainees are assigned to different classes based on learning speed, the overall cost of the training program will be higher because additional staff and facilities are required to conduct the different classes. In all likelihood, however, this increased cost may be offset by the percentage of successful training graduates. For strategy I (differential assignment), therefore, assume a \$150,000 total training cost and a 75% success rate among trainees. Alternatively, the overall cost of strategy II (single training class) would be lower, but the percentage of successful graduates may also be lower. For strategy II, therefore, assume that the total training cost is \$110,000 and that 50% of the trainees successfully complete the training program. Payoffs from the two strategies may now be compared:

	Total Training Cost	Percentage of Successful Grads
Strategy I—differential assignment	\$150,000	75%
Strategy II—single training	\$110,000	50%
Program strategy II—total payoff	+ \$40,000	-25%

At first glance, strategy II may appear cost effective. Yet, in addition to producing 25% fewer graduates, this approach has hidden costs. In attempting to train all new hires at the same rate, the faster-than-average learners will be penalized because the training is not challenging enough for them, while the slower-than-average learners will be penalized in trying to keep up with what they perceive to be a demanding pace. The organization itself also may suffer in that the fast learners may quit (thereby increasing recruitment and selection costs), regarding the lack of challenge in training as symptomatic of the lack of challenge in full-time jobs with the organization.

In summary, utility theory provides a framework for making decisions by forcing the decision maker to define clearly his or her goal, to enumerate the expected consequences or possible outcomes of the decision, and to attach differing utilities or values to each. Such an approach has merit, since resulting decisions are likely to rest on a foundation of sound reasoning and conscious forethought. As we will see in [Chapters 9 through 16](#), the systematic consideration of the costs and consequences of decisions is an extremely useful tool for the I/O psychologist or HR professional. Another useful tool, one that forces the decision maker to think in terms of multiple causes and multiple effects, is systems analysis.

Organizations as Systems

In recent years, much attention has been devoted to the concept of "systems" and the use of "systems thinking" to frame and solve complex scientific and technological problems. The approach is particularly relevant to the social sciences, and it also provides an integrative framework for organization theory and management practice.

What is a system? One view holds that a system is a collection of interrelated parts, unified by design and created to attain one or more objectives. The objective is to be aware of the variables involved in executing managerial functions so that decisions will be made in light of the overall effect on the organization and its objectives. These decisions must consider not only the organization itself but also the larger systems (e.g., industry and environment) in which the organization operates (Kendall & Kendall, 2014). Classical management theories viewed organizations as closed or self-contained systems whose problems could be divided into their component

parts and solved. The closed-system approach concentrated primarily on the internal operation of the organization (i.e., within its own boundary) and tended to ignore the outside environment.

This approach was criticized on several grounds. In concentrating solely on conditions inside the firm, management became sluggish in its response to the demands of the marketplace. Sadly, the strategy literature is littered with examples of firms that failed to react appropriately to developments in their external environments. As Lei and Slocum (2014) note, yesterday's winners often morph into tomorrow's dinosaurs. As examples, consider Circuit City, Borders, Filene's Basement, Blockbuster, MCI Worldcom, and Tyco. Kodak failed to react to developments in digital photography. Neither Intel nor Microsoft gained a foothold in the mobile market, which was transformed after Apple introduced the iPhone in 2007. Indeed, since Apple's iPad emerged in 2010 sales of personal computers have been mainly declining (Clark & Stynes, 2016). Obviously the closed-system approach does not describe organizational reality. In contrast, a systemic perspective requires managers to integrate inputs from multiple perspectives and environments and to coordinate the various components.

The modern view of organizations, therefore, is that of open systems in continual interaction with multiple, dynamic environments, providing for a continuous import of inputs (in the form of people, capital, raw material, and information) and a transformation of these into outputs, which are then exported back into these various environments to be consumed by clients or customers (see [Figure 3.1](#)).

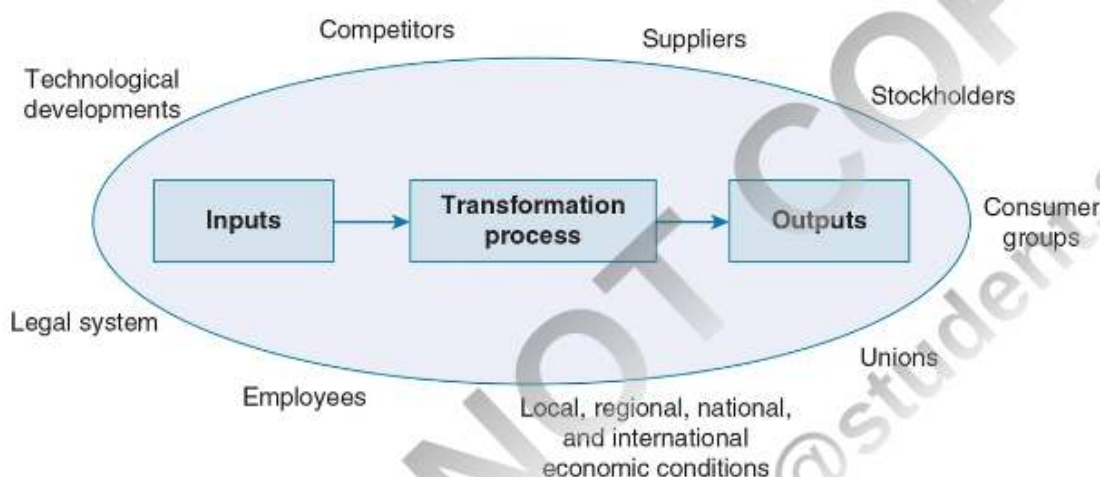


Figure 3.1 Organizations Are Open Systems in Continual Interaction With Multiple Dynamic Environments

Subsequently, the environments (political, economic, social, technical, legal, and the natural environment) provide feedback on the overall process (Cascio, 2015; Hitt, Ireland, & Hoskisson, 2015). Senge (1990) described the process well:

Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than "snapshots." It is a set of general principles—distilled over the course of the twentieth century, spanning fields as diverse as the physical and social sciences, engineering, and management. It is also a specific set of tools and techniques [D]uring the last thirty years these tools have been applied to understand a wide range of corporate, urban, regional, economic,
