

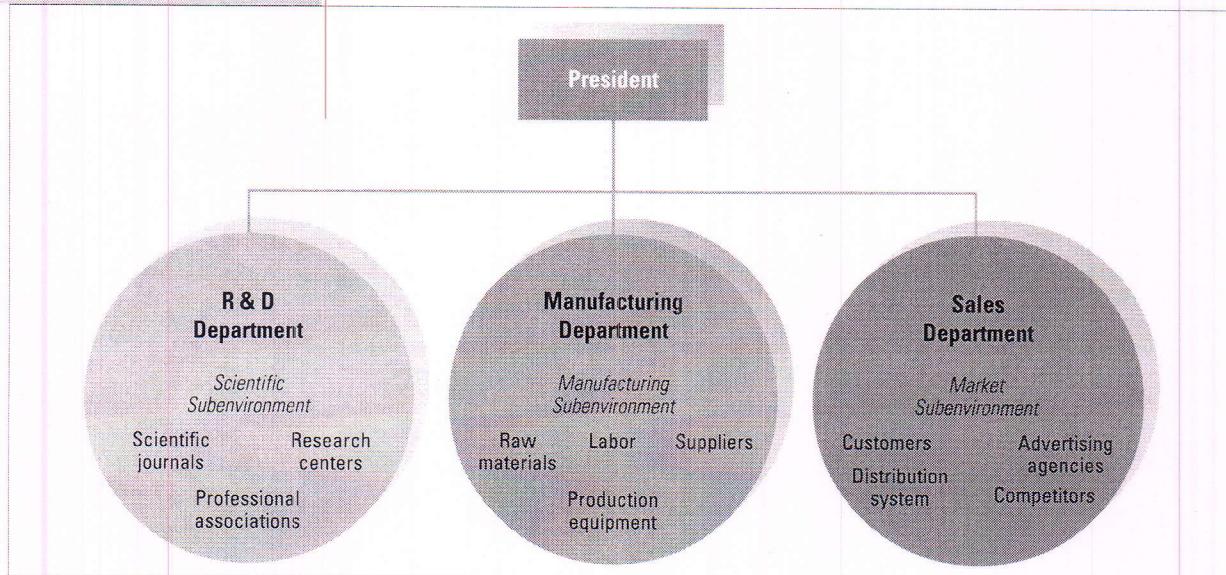
Differentiation and Integration

Another response to environmental uncertainty is the amount of differentiation and integration among departments. Organizational **differentiation** refers to “the differences in cognitive and emotional orientations among managers in different functional departments, and the difference in formal structure among these departments.”³⁹ When the external environment is complex and rapidly changing, organizational departments become highly specialized to handle the uncertainty in their external sector. Success in each sector requires special expertise and behavior. Employees in an R&D department thus have unique attitudes, values, goals, and education that distinguish them from employees in manufacturing or sales departments.

A study by Paul Lawrence and Jay Lorsch examined three organizational departments—manufacturing, research, and sales—in ten corporations.⁴⁰ This study found that each department evolved toward a different orientation and structure to deal with specialized parts of the external environment. Exhibit 4.3 illustrates the market, scientific, and manufacturing subenvironments identified by Lawrence and Lorsch. As shown in the exhibit, each department interacted with different external groups. The differences that evolved among departments within the organizations are shown in Exhibit 4.4. To work effectively with the scientific subenvironment, R&D had a goal of quality work, a long time horizon (up to five years), an informal structure, and task-oriented employees. Sales was at the opposite extreme. It had a goal of customer satisfaction, was oriented toward the short term (two weeks or so), had a very formal structure, and was socially oriented.

One outcome of high differentiation is that coordination among departments becomes difficult. More time and resources must be devoted to achieving

EXHIBIT 4.3
Organizational Departments Differentiate to Meet Needs of Subenvironments



**EXHIBIT 4.4**

Differences in Goals and Orientations among Organizational Departments

Characteristic	R&D Department	Manufacturing Department	Sales Department
Goals	New developments, quality	Efficient production	Customer satisfaction
Time horizon	Long	Short	Short
Interpersonal orientation	Mostly task	Task	Social
Formality of structure	Low	High	High

Source: Based on Paul R. Lawrence and Jay W. Lorsch, *Organization and Environment* (Homewood, Ill.: Irwin, 1969), 23–29.

coordination when attitudes, goals, and work orientation differ so widely. **Integration** is the quality of collaboration among departments.⁴¹ Formal integrators are often required to coordinate departments. When the environment is highly uncertain, frequent changes require more information processing to achieve horizontal coordination, so integrators become a necessary addition to the organization structure. Sometimes integrators are called liaison personnel, project managers, brand managers, or coordinators. As illustrated in Exhibit 4.5, organizations with highly uncertain environments and a highly differentiated structure assign about 22 percent of management personnel to integration activities, such as serving on committees, on task forces, or in liaison roles.⁴² In organizations characterized by very simple, stable environments, almost no managers are assigned to integration roles. Exhibit 4.5 shows that, as environmental uncertainty increases, so does differentiation among departments; hence, the organization must assign a larger percentage of managers to coordinating roles.

Lawrence and Lorsch's research concluded that organizations perform better when the levels of differentiation and integration match the level of uncertainty in the environment. Organizations that performed well in uncertain environments had high levels of both differentiation and integration, while those performing well in less uncertain environments had lower levels of differentiation and integration.

Organic versus Mechanistic Management Processes

Another response to environmental uncertainty is the amount of formal structure and control imposed on employees. Tom Burns and G. M. Stalker observed twenty industrial firms in England and discovered that internal management structure was related to the external environment.⁴³ When the external environment was stable, the internal organization was characterized by standard rules, procedures, and a clear hierarchy of authority. Organizations were formalized. They were also centralized, with most decisions made at the top. Burns and Stalker called this a **mechanistic** organization system.

In rapidly changing environments, the internal organization was much looser, free-flowing, and adaptive. Rules and regulations often were not written down or, if written down, were ignored. People had to find their own way through the system to figure out what to do. The hierarchy of authority was not clear. Decision-making authority was decentralized. Burns and Stalker used the term **organic** to characterize this type of management structure.



Briefcase

As an organization manager, keep these guidelines in mind:

Match internal organization structure to the external environment. If the external environment is complex, make the organization structure complex. Associate a stable environment with a mechanistic structure and an unstable environment with an organic structure. If the external environment is both complex and changing, make the organization highly differentiated and organic, and use mechanisms to achieve coordination across departments.

EXHIBIT 4.5

 Environmental
Uncertainty and
Organizational Integrators

Industry	Plastics	Foods	Container
Environmental uncertainty	High	Moderate	Low
Departmental differentiation	High	Moderate	Low
Percent management in integrating roles	22%	17%	0%

Source: Based on Jay W. Lorsch and Paul R. Lawrence, "Environmental Factors and Organizational Integration," *Organizational Planning: Cases and Concepts* (Homewood, Ill.: Irwin and Dorsey, 1972), 45.

Exhibit 4.6 summarizes the differences in organic and mechanistic systems. As environmental uncertainty increases, organizations tend to become more organic, which means decentralizing authority and responsibility to lower levels, encouraging employees to take care of problems by working directly with one another, encouraging teamwork, and taking an informal approach to assigning tasks and responsibility. Thus, the organization is more fluid and is able to adapt continually to changes in the external environment.⁴⁴ Complete the questionnaire in the "How Do You Fit the Design?" box for some insight into whether you are more suited to working in an organic organization or a mechanistic one.

The learning organization, described in Chapter 1, and the horizontal and virtual network structures, described in Chapter 3, are organic organizational forms that are used by companies to compete in rapidly changing environments. Guiltless Gourmet, which sells low-fat tortilla chips and other high-quality snack foods, provides an example. When large companies like Frito Lay entered the low-fat snack-food market, Guiltless Gourmet shifted to a flexible network structure to remain competitive. The company redesigned itself to become basically a full-time marketing organization, while production and other activities were outsourced. An 18,000-square-foot plant in

EXHIBIT 4.6

 Mechanistic and Organic
Forms

Mechanistic	Organic
<ul style="list-style-type: none"> 1. Tasks are broken down into specialized, separate parts. 2. Tasks are rigidly defined. 3. There is a strict hierarchy of authority and control, and there are many rules. 4. Knowledge and control of tasks are centralized at the top of the organization. 5. Communication is vertical. 	<ul style="list-style-type: none"> 1. Employees contribute to the common tasks of the department. 2. Tasks are adjusted and redefined through employee teamwork. 3. There is less hierarchy of authority and control, and there are few rules. 4. Knowledge and control of tasks are located anywhere in the organization. 5. Communication is horizontal.

Source: Adapted from Gerald Zaltman, Robert Duncan, and Jonny Holbek, *Innovations and Organizations* (New York: Wiley, 1973), 131.



Austin was closed and the workforce cut from 125 to about 10 core people who handle marketing and sales promotions. The flexible structure allowed Guiltless Gourmet to adapt quickly to changing market conditions.⁴⁵

Planning, Forecasting, and Responsiveness

The whole point of increasing internal integration and shifting to more organic processes is to enhance the organization's ability to quickly respond to sudden changes in an uncertain environment. It might seem that in an environment where everything is changing all the time, planning is useless. However, in uncertain environments, planning and environmental forecasting actually become *more* important as a way

How Do You Fit the Design?

Mind and Environment

Does your mind best fit an organization in a certain or an uncertain environment? Think back to how you thought or behaved as a student, employee, or in a formal or informal leader position. Please answer whether each following item was Mostly True or Mostly False for you.

	Mostly True	Mostly False
1. I always offered comments on my interpretation of data or issues.	—	—
2. I welcomed unusual viewpoints of others even if we were working under pressure.	—	—
3. I made it a point to attend industry trade shows and company (school) events.	—	—
4. I explicitly encouraged others to express opposing ideas and arguments.	—	—
5. I asked "dumb" questions.	—	—
6. I enjoyed hearing about new ideas even when working toward a deadline.	—	—
7. I expressed a controversial opinion to bosses and peers.	—	—
8. I suggested ways of improving my and others' ways of doing things.	—	—

Scoring: Give yourself one point for each item you marked as Mostly True. If you scored less than 5, your mindfulness level may be suited to an organization in a stable rather than unstable environment. A score of 5 or above suggests a higher level of mindfulness and a better fit for an organization in an uncertain environment.

Interpretation: In an organization in a highly uncertain environment everything seems to be changing. In that case, an important quality for a professional employee or manager is "mindfulness," which includes the qualities of being open minded and an independent thinker. In a stable environment, an organization will be more "mechanistic," and a manager without mindfulness may perform okay because much work can be done in the traditional way. In an uncertain environment, everyone needs to facilitate new thinking, new ideas, and new ways of working. A high score on this exercise suggests higher mindfulness and a better fit with an "organic" organization in an uncertain environment.

Source: These questions are based on ideas from R. L. Daft and R. M. Lengel, *Fusion Leadership*, Chapter 4 (San Francisco, Calif.: Berrett Koehler, 2000); B. Bass and B. Avolio, *Multifactor Leadership Questionnaire*, 2nd ed. (Menlo Park, Calif.: Mind Garden, Inc); and Karl E. Weick and Kathleen M. Sutcliffe, *Managing the Unexpected: Assuring High Performance in an Age of Complexity* (San Francisco, Calif.: Jossey-Bass, 2001).