What tools and techniques are available for planning?

1. What is environmental scanning and how is it done?
2. What tools can managers use to allocate resources more effectively?
3. How does one manage projects?

Environmental Scanning

What kinds of information might you look for to learn about competitors?

How can managers become aware of significant environmental changes such as a new law in Germany permitting shopping for "tourist items" on Sunday? Or retailer Toys "R" Us deciding to partner with Amazon.com in response to other toy retailers' online sales? Or the precipitous decline in the working-age populations in Japan, Germany, Italy, and Russia? Managers in both small and large organizations use **environmental scanning**, which is the screening of large amounts of information to anticipate and interpret changes in the environment. Extensive environmental scanning is likely to reveal issues and concerns that could affect an organization's current or planned activities. (See *Building Your Skills—Scanning the Environment*, pages 205–206, in Chapter 7.)

Research has shown that companies with advanced environmental scanning systems have increased their profits and revenue growth.[2] Organizations that don't keep on top of environmental changes are likely to experience the opposite! For instance, Tupperware, the food-storage container company, enjoyed unprecedented success during the 1960s and 1970s, selling its products at home-hostessed parties where housewives played games, socialized, and saw product demonstrations. However, as North American society changed—more women working full-time outside the home, an increasing divorce rate, and young adults waiting longer to marry—the popularity of Tupperware parties began to decline because no one had time to go to them. The company's North American market share fell from 60 percent to 40 percent while Rubbermaid, a competitor that marketed its plastic food-storage containers in retail outlets, increased its market share from 5 percent to 40 percent. By the early 1990s, most women had no desire to go to a Tupperware party or knew how to find Tupperware products elsewhere. Yet Tupperware's president, obviously clueless about the changed environment, predicted that before the end of the 1990s, the party concept would be popular once again.[3] This example shows how a once successful company can suffer by failing to recognize how the environment has changed.

Competitor Intelligence

One of the fastest-growing areas of environmental scanning is **competitor intelligence**.[4] It's a process by which organizations gather information about their competitors and get answers to questions such as: Who are they? What are they doing? How will what they're doing affect us? Let's look at an example of how one organization used competitor intelligence in its planning. Dun & Bradstreet (D&B), a leading provider of business credit, marketing, and purchasing information, has an active business intelligence division. The division manager received a call from an assistant vice-president for sales in one of the company's geographic territories. This person had been on a sales call with a major customer and the customer happened to mention in passing that another company had visited and made a major presentation about its services. What was interesting was that, although D&B had plenty of competitors, this particular company wasn't one of them. The manager gathered together a team that sifted through dozens of sources (research services, Internet, personal contacts, and other external sources) and quickly became convinced that there was something to this; that this company was "aiming its guns right at us." Managers at D&B jumped into action to develop plans to counteract this competitive attack.[5]

Competitor intelligence experts suggest that 80 percent of what managers need to know about competitors can be found out from their own employees, suppliers, and customers.[6] Competitor intelligence doesn't have to involve spying. Customers, advertisements, promotional materials, marketing research, press releases, reports filed with government agencies, annual reports, want ads, newspaper reports, distributors, and industry studies are examples of readily accessible sources of information. Attending trade shows and debriefing the sales force can be other good sources of competitor information. Monitoring job ads by competitors gives some indication of the kinds of positions the competitor is trying to fill; the frequency of the ads may indicate that there is a lot of turnover, or that the company is expanding rapidly.[7] Many firms regularly buy competitors' products and have their own engineers study them (through a process called *reverse engineering*) to learn about new technical innovations. In addition, the Internet has opened up vast sources of competitor intelligence as many corporate web pages include new-product information and press releases. As Professor Marc-David Seidel of UBC's Sauder School of Business notes, "There are actually a lot of private firms that get hired to do this kind of work—the really dark stuff. . . . These are ethical decisions. It's a fairly grey line."[8]

The concerns about competitor intelligence pertain to the ways in which competitor information is gathered. For instance, at Procter & Gamble, executives hired competitive intelligence firms to spy on its competitors in the hair care business. At least one of these firms misrepresented themselves to competitor Unilever's employees, trespassed at Unilever's hair care headquarters in Chicago, and went through trash dumpsters to gain information. When P&G's CEO found out, he immediately fired the individuals responsible and apologized to Unilever.[9] Competitor intelligence becomes illegal corporate spying when it involves the theft of proprietary materials or trade secrets by any means. The difficult decisions about competitive intelligence arise because often there's a fine line between what's considered *legal and ethical* and what's considered *legal but unethical*. Although the top manager at one competitive intelligence firm contends that 99.9 percent of intelligence gathering is legal, there's no question that some people or companies will go to any lengths—many unethical—to get information about competitors.[10] Often participants will claim that what is legal or ethical is a grey area. For instance, Air Canada has accused WestJet Airlines of acting illegally in gathering information about its routes, while WestJet says there was no indication the data were confidential, as the following *Management Reflection* shows.

Scanning the Environment

Anticipating and interpreting changes that are taking place in the environment is an important skill that managers need. Information that comes from scanning the environment can be used in making decisions and taking actions. And managers at all levels of an organization need to know how to scan the environment for important information and trends.

Learning: Scanning the Environment

You can be more effective at scanning the environment if you use the following five suggestions:

1. *Decide which type of environmental information is important to your work.* Perhaps you need to know changes in customers' needs and desires or perhaps you need to know what your competitors are doing. Once you know the type of information that you'd like to have, you can look at the best ways to get that information.
2. *Regularly read and monitor pertinent information.* There is no scarcity of information to scan, but what you need to do is read those information sources that are pertinent. How do you know information sources are pertinent? They're pertinent if they provide you with the information that you identified as important.
3. *Incorporate the information that you get from your environmental scanning into your decisions and actions.* Unless you use the information you're getting, you're wasting your time getting it. Also, the more that you find you're using information from your environmental scanning, the more likely it is that you'll want to continue to invest time and other resources into gathering it. You'll see that this information is important to your being able to manage effectively and efficiently.
4. *Regularly review your environmental scanning activities.* If you find that you're spending too much time getting nonuseful information, or if you're not using the pertinent information that you've gathered, you need to make some adjustments.
5. *Encourage your subordinates to be alert to information that is important.* Your employees can be your "eyes and ears" as well. Emphasize to them the importance of gathering and sharing information that may affect your work unit's performance.

Sources: Based on L. M. Fuld, *Monitoring the Competition* (New York: Wiley, 1988); E. H. Burack and N. J. Mathys, "Environmental Scanning Improves Strategic Planning," *Personnel Administrator*, 1989, pp. 82–87; and R. Subramanian, N. Fernandes, and E. Harper, "Environmental Scanning in U.S. Companies: Their Nature and Their Relationship to Performance," *Management International Review*, July 1993, pp. 271–286.

Practice: Scanning the Environment

Read the following scenario. Write some notes about how you would handle the situation described. Be sure to refer to the five suggestions for scanning the environment.

Scenario

You're the assistant to the president at your college or university. You've been asked to prepare a report outlining the external information that you think is important for her to monitor. Think of the types of information that the president would need in order to do an effective job of managing the college or university right now and over the next three years. Be as specific as you can in describing this information. Also, identify where this information could be found.

Reinforcement: Scanning the Environment

The following activities will help you practise and reinforce the skills associated with scanning the environment:

1. Select an organization with which you're familiar either as an employee or perhaps as a frequent customer. Assume that you're the top manager in this organization. What types of information from environmental scanning do you think would be important to you? Where would you find this information? Now assume that you're a first-line manager in this organization. Would the types of information you'd get from environmental scanning change? Explain.
2. Assume you're a regional manager for a large bookstore chain. Using the Internet, what types of environmental and competitive information are you able to identify? For each source, what information did you find that might help you do your job better?

Benchmarking

Suppose that you're a talented pianist or gymnast. To make yourself better, you want to learn from the best so you watch outstanding musicians or athletes for motions and techniques they use as they perform. That's what is involved in the final technique for assessing the environment we're going to discuss—**benchmarking**. This is the search for the best practices among competitors or noncompetitors that lead to their superior performance.[19] Does benchmarking work? Studies show that users have achieved 69 percent faster growth and 45 percent greater productivity.[20]

The basic idea behind benchmarking is that managers can improve performance by analyzing and then copying the methods of the leaders in various fields. Companies such as Sudbury, Ontario-based ABS Manufacturing and Distributing, a manufacturer of valves and gaskets for mining, pulp and paper companies; Toronto-based Mr. Convenience, which leases furniture and appliances to Toronto consumers and businesses; and Mississauga, Ontario-based computer security firm Borderware use benchmarking as a standard tool in their quest for performance improvement. Canadian business schools use benchmarking to set goals for where they want to rank. Rotman, Schulich, Ivey, and Sauder are just a few of the business schools that follow national and international rankings in their quest to be the "number one business school in Canada." Some companies have chosen some pretty unusual benchmarking partners. Southwest Airlines, for example, studied Indy 500

pit crews, who can change a race tire in under 15 seconds, to see how they could make gate turnarounds even faster. IBM studied Las Vegas casinos for ways to discourage employee theft. Even governments use benchmarking. The federal government passed a bill in March 2004, requiring all departments to benchmark their fees and performance standards against those of Canada's trading partners. The penalty if departments fail to meet their benchmarks? They will have to refund some of the fees they have been collecting for services. Toronto-area Liberal MP Roy Cullen introduced the bill after complaints from Bayer and BASF, companies in his riding, that claimed they paid fees equivalent to what they paid in other countries, but waited far longer to get new chemicals approved.[21]

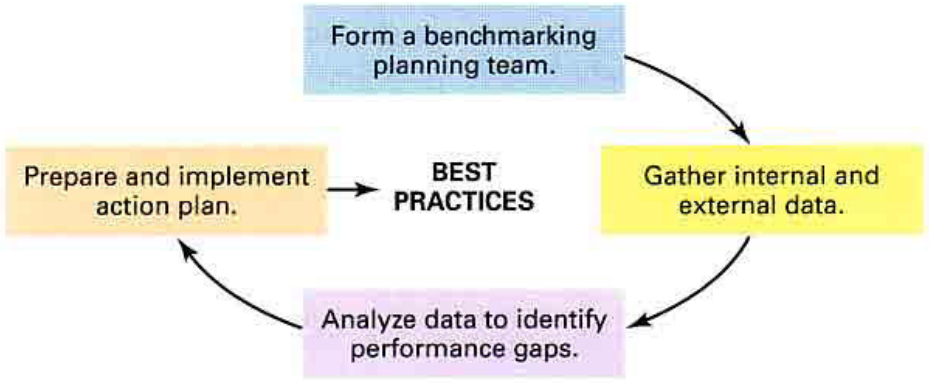
Customers may be delighted when retaile counts. But the slashed prices may actu that resulted in excess inventory that Wa markdowns of up to 40 percent.

What does benchmarking involve? As shown in Exhibit 8–2, it typically follows four steps:

1. A benchmarking planning team is formed. The team's initial task is to identify what is to be benchmarked, identify comparative organizations, and determine data collection methods.
2. The team collects internal data on its own work methods and external data from other organizations.
3. The data are analyzed to identify performance gaps and the cause of differences.
4. An action plan that will result in meeting or exceeding the standards of others is prepared and implemented.

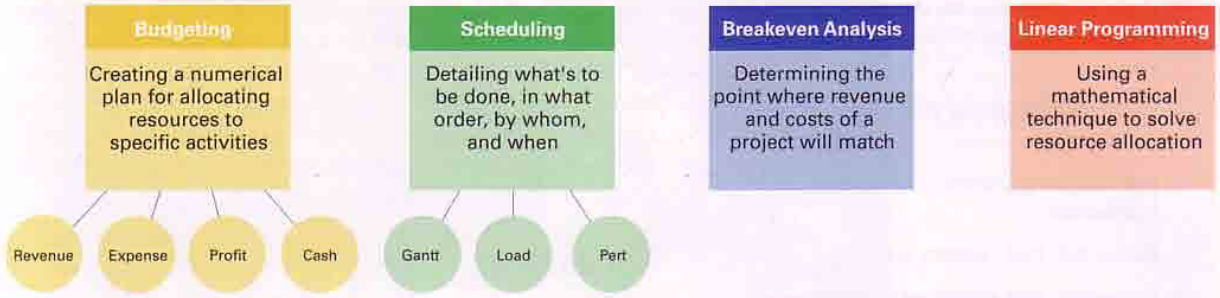
How does a benchmarking team get data on other organizations?[22] First, you need to decide against whom you're going to benchmark. Use your network of contacts among customers, suppliers, and employees for organizations they think are best at the process you're trying to improve. Trade associations and industry experts often know what organizations have revolutionary practices. Watch for organizations that may have won local, regional, or national awards as potential benchmarking partners. Also, use the Internet. Competitors' websites can be rich sources of information. Many company websites describe

Steps in Benchmarking



Source: Based on Y. K. Shetty, "Aiming High: Competitive Benchmarking for Superior Performance," *Long Range Planning*, February 1993, p. 42.

Techniques for Allocating Resources



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Scheduling

Ann is a manager at a Roots store in Toronto. Every week she determines employees' work hours and the store area where each employee will be working. If you observed any group of supervisors or department managers for a few days, you would see them doing much the same—allocating resources by detailing what activities have to be done, the order in which they are to be completed, who is to do each, and when they are to be completed. These managers are **scheduling**. In this section, we'll review some useful scheduling devices including Gantt charts, load charts, and PERT network analysis.

Gantt Charts

The **Gantt chart** was developed during the early 1900s by Henry Gantt, an associate of the scientific management expert Frederick Taylor. The idea behind a Gantt chart is simple. It's essentially a bar graph with time on the horizontal axis and the activities to be scheduled on the vertical axis. The bars show output, both planned and actual, over a period of time. The Gantt chart visually shows when tasks are supposed to be done and compares that with the actual progress on each. It's a simple but important device that lets managers

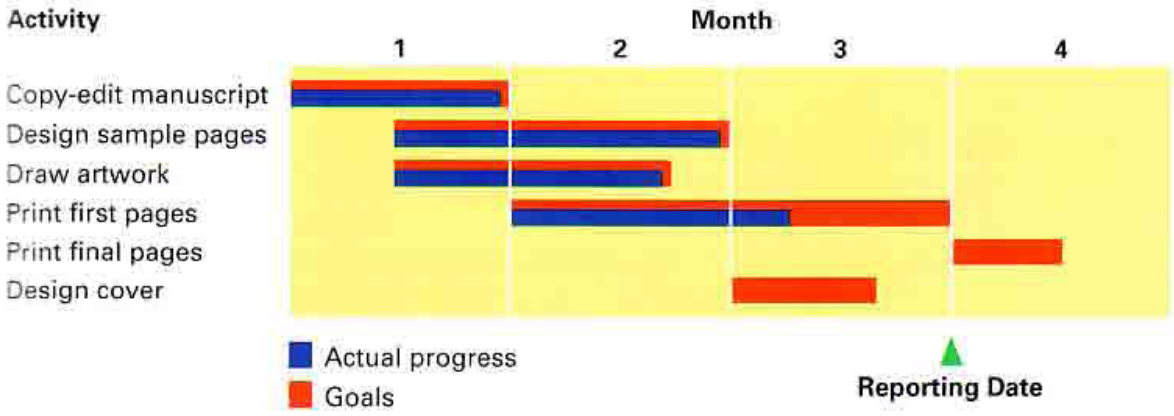
detail easily what has yet to be done to complete a job or project and to assess whether an activity is ahead of, behind, or on schedule.

Exhibit 8–5 depicts a simplified Gantt chart for book production developed by a manager in a publishing company. Time is expressed in months across the top of the chart. The major work activities are listed down the left side. Planning involves deciding what activities need to be done to get the book finished, the order in which those activities need to be completed, and the time that should be allocated to each activity. Where a box sits within a time frame reflects its planned sequence. The shading represents actual progress. The chart also serves as a control tool because the manager can see deviations from the plan. In this example, both the design of the cover and the printing of first pages are running behind schedule. Cover design is about three weeks behind, and printing first pages is about two weeks behind schedule. Given this information, the manager might need to take some action to either make up for the two lost weeks or to ensure that no further delays will occur. At this point, the manager can expect that the book will be published at least two weeks later than planned if no action is taken.

As John Furlong plans for the 2010 Olympics in Vancouver, he will need to develop a similar chart that incorporates planning between 2005 and 2010. The chart should indicate what needs to be done (goals), the actual progress (so he can keep track of whether projects such as building Olympic sites and housing are on track), and reporting dates for projects (so that those managing the projects keep him informed of progress and delays).

Exhibit 8–5

A Gantt Chart



PERT Network Analysis

Gantt and load charts are useful as long as the activities being scheduled are few in number and independent of each other. But what if a manager had to plan a large project such as a departmental reorganization, the implementation of a cost-reduction program, or the development of a new product that required coordinating inputs from marketing, manufacturing, and product design? Such projects require coordinating hundreds and even thousands of activities, some of which must be done simultaneously and some of which can't begin until preceding activities have been completed. If you're constructing a building, you obviously can't start putting up the walls until the foundation is laid. How can managers schedule such a complex project? The Program Evaluation and Review Technique (PERT) is highly appropriate for such projects.

A **PERT network** is a flow chart diagram that depicts the sequence of activities needed to complete a project and the time or costs associated with each activity. With a PERT net-

work, a manager must think through what has to be done, determine which events depend on one another, and identify potential trouble spots. PERT also makes it easy to compare the effects alternative actions might have on scheduling and costs. Thus, PERT allows managers to monitor a project's progress, identify possible bottlenecks, and shift resources as necessary to keep the project on schedule.

As John Furlong plans for the 2010 Olympics in Vancouver, he has many projects to coordinate, including building transportation lines, Olympic housing, and Olympic facilities. A PERT network helps him identify when projects need to be completed, and the goals that must be met in order to make the completion date. For instance, the RAV line, which will link Vancouver International Airport to the downtown area, must be completed about a year before the Olympics start, to make sure that the system is working properly. Delays in approving the initial phase of the project in spring 2004 created worries that the project could not be completed in time. The original plan had assumed that approval would happen by March 2004, but approval came four months later, and only after two negative votes resulted in intense lobbying for the third round of voting to yield a positive outcome. The delays caused the provincial government to allocate more resources to the project in order to resolve the bottleneck caused by concerns over whether the RAV line planners had been realistic about their budget. Budget concerns will most likely continue.

To understand how to construct a PERT network, you need to know four terms. **Events** are end points that represent the completion of major activities. **Activities** represent the time or resources needed to progress from one event to another. **Slack time** is the amount of time an individual activity can be delayed without delaying the whole project. The **critical path** is the longest or most time-consuming sequence of events and activities in a PERT network. Any delay in completing events on this path would delay completion of the entire project. In other words, activities on the critical path have zero slack time.

Developing a PERT network requires that a manager identify all key activities needed to complete a project, rank them in order of occurrence, and estimate each activity's completion time. Exhibit 8–7 explains the steps in this process.

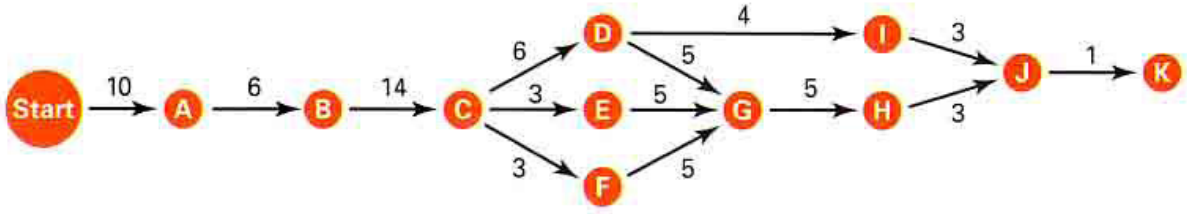
Most PERT projects are complicated and include numerous activities. Such complicated computations can be done with specialized PERT software. However, let's work through a simple example. Assume that you're the superintendent at a construction company and have been assigned to oversee the construction of an office building. Because time really is

money in your business, you must determine how long it will take to get the building completed. You've determined the specific activities and events. Exhibit 8–8 on this page outlines the major events in the construction project and your estimate of the expected time to complete each. Exhibit 8–9 on page 223 shows the actual PERT network based on the data in Exhibit 8–8. You've also calculated the length of time that each path of activities will take:

A-B-C-D-I-J-K (44 weeks)
A-B-C-D-G-H-J-K (50 weeks)
A-B-C-E-G-H-J-K (47 weeks)
A-B-C-F-G-H-J-K (47 weeks)

Your PERT network shows that if everything goes as planned, the total project completion time will be 50 weeks. This is calculated by tracing the project's critical path (the longest sequence of activities): A-B-C-D-G-H-J-K and adding up the times. You know that any delay in completing the events on this path would delay the completion of the entire project. Taking six weeks instead of four to put in the floor covering and panelling (Event I) would have no effect on the final completion date. Why? Because that event isn't on the critical path. However, taking seven weeks instead of six to dig the subterranean garage (Event B) would likely delay the total project. A manager who needed to get back on schedule or to cut the 50-week completion time would want to concentrate on those activities along the critical path that could be completed faster. How might the manager do this? He or she could look to see if any of the other activities *not* on the critical path had slack time in which resources could be transferred to activities that *were* on the critical path.

A PERT Network for Constructing an Office Building



24/7 Gramercy Park

September 11, 2001, is one of those dates that people will always remember, even those who weren't directly affected by the events that occurred that day. But for those who *were* directly affected, the date was a turning point at which daily life changed in unimagined and unplanned ways. Wahday Washington and Tony Wilson were two people whose lives took an unexpected detour that day.

Washington and Wilson are co-owners of a workout facility called 24/7 Gramercy Park, a gym popular with hardcore and amateur body builders alike. The two purchased the facility (previously called Johnny Lats) in 1997. For four years they built their business into a success and felt it was time to expand. Washington said, "When we evaluated the growth we had at the first location and looked at the market, we knew 2001 was the year to expand." And the external trends seemed favourable. The health and fitness industry had its best year ever in 2000, a record number of Americans were exercising in health clubs, and, even more impressive, the New York region experienced the largest growth in health club memberships in the nation. The duo found a suitable building in the Tribeca area and took the plunge.

However, the second location in the 24/7 fitness empire turned out to be not exactly what they had expected. Washington and Wilson underestimated the amount of effort and resources it would take to make the building the fitness showcase they envisioned. The building was so old it had to be rewired with a totally new electric system, the sub-basement had to be excavated because of low ceiling clearance, and new lighting had to be added. But they trudged onward because the location was so desirable. It was "within spitting distance" of the World Trade Center and New York's financial district, movie studios, and a growing shopping area.

At the same time the Tribeca construction was going on, another opportunity presented itself. One of the partners' main competitors offered to sell them his location, which was near the original 24/7 facility. Washington and Wilson jumped at the offer, but they could do so only by bringing in a third partner who would own 50 percent of this location. Meanwhile, the remodelling wasn't going as quickly as planned at the Tribeca location. A planned opening in July 2001 didn't happen and the location still wasn't open by Labour Day. The expenses continued to mount and prepaid customers for the Tribeca location were upset over the delayed opening. Things were bad: then came September 11, 2001.

In the aftermath of the twin towers' collapse, lower Manhattan, including the Tribeca area, was shut down. Fortunately, the partner's 24/7 Tribeca building wasn't damaged structurally, but there was other damage to deal with. All businesses not related to the financial district were essentially closed because employees and customers couldn't get there. The contracting crews couldn't get in to complete renovations. And at least 20 percent of the gym's prepaid members had worked at the World Trade Center. To counteract some of the damage, Washington and Wilson received a $32 750 grant and a $32 750 loan from the Downtown Alliance. By December 2001, the Tribeca area became more accessible. When the 24/7 Tribeca location finally opened its doors on January 2, 2002, one year after it was purchased, it was six months later than scheduled and $196 500 over projected costs. Washington and Wilson described that time as a period of "growing pains."

Hoping not to face this kind of stress again, Washington and Wilson wonder whether they could have planned better and have come to you for advice.

Source: R. Barnes and D. R. Brown, "Surviving 9-11," *Black Enterprise*, September 2002, pp. 114–20.