

CHAPTER 2

Performance and Productivity: Team Performance Criteria and Threats to Productivity

Team A is a top-management team in a rapidly growing pharmaceutical company. When team members are asked to reveal their "secret" for incredible growth, they have no idea how to respond. The team developed with no mission statement, goals, or strategic plan. The vice president of marketing put it this way: "We know we're doing something right, but we sure as hell don't know what it is." But when faced with new challenges, team members are afraid to change anything for fear of messing up a good thing.

Team B is also a top-management team in a farm and mining equipment company that is going through an extremely slow period. Profits are down. It is clear that something has to change. When team members retreat to make decisions, each has a different theory of what to do: Someone argues they should restructure around "values"; others want to get back to basics and empower workers; still others argue for greater centralization.

Team A and Team B have opposite fates, but the same problem: Neither one knows what drives their productivity or lack thereof.

A business person once stated "there is nothing as practical as a good theory."

—Lewin, 1943

The management teams in both of these organizations each need the same thing: A clear understanding of why and how to use teams in their companies. Ideally, they would like a model that would tell them what to do in each of the circumstances facing them. Such a model would serve two purposes: **Description**, or the interpretation of events so that managers can come up with an accurate analysis of the situation; and **prescription**, or a recommendation on what to do to fix the situation.

In this chapter, we introduce a model of team performance. The model tells us what factors and conditions have to be in place for teams to function effectively and how to address problems with performance. The remainder of the chapter focuses on different parts of the model and provides choices to enact change.

AN INTEGRATED MODEL OF SUCCESSFUL TEAM PERFORMANCE

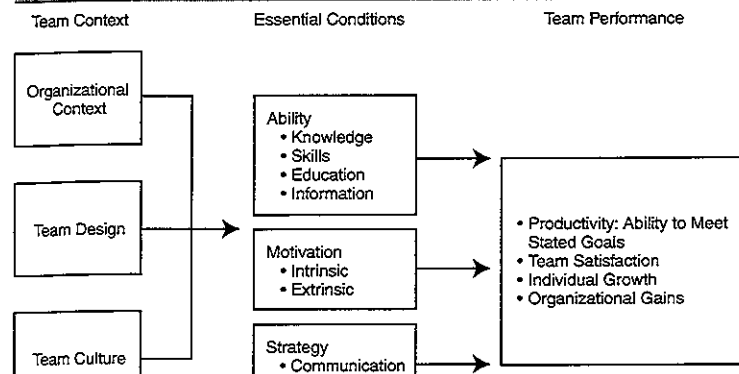
We think that the best models of teamwork are ones that put the team in the context of the organization—that is, they deal with internal processes of teams as well as the team in the larger context of the organization (see Hackman, 1987, 1990; Hill, 1995). Figure 2-1 is a descriptive-prescriptive model of team performance: It tells us what to expect in terms of team performance and suggests ways to improve the functioning of teams. As promised in chapter 1, the model in Figure 2-1 is based upon empirical research. This chapter steps through each piece of the model.

The message of the model is actually quite simple. It asserts that the context of the team (referring to its internal processes and external constraints and opportunities) affects the team's ability to do three essential things: Perform effectively, build and sustain motivation, and coordinate people. These essential conditions are the causal determinants of the team's performance—that is, whether it succeeds or fails. The remainder of the chapter is divided into three key sections corresponding to the three pieces of the model: Team context, essential conditions, and team performance. We begin with the team context.

TEAM CONTEXT

The **team context** includes the larger organizational setting within which the team does its work, the design of the team in terms of its internal functioning, and the culture of the team. High performance teams cannot be created through simple instruction or exhortation. Instead, there are a number of organizational conditions that, when in place, increase the likelihood that a team's work will be successful (Hackman, 1990). In part, this means that the team relies on the organization to provide resources, funding, individuals for membership, and so on. In chapter 1, we stated that teams operate in a social context, which shapes and confines behavior. As we discuss in parts II and III, the

FIGURE 2-1 Integrated Model of Teamwork



team leader must not only think about the internal functioning of the team (i.e., ability, motivation, and coordination), but also the external functioning of the team, including the organizational context, team design, and group norms.

Organizational Context

The organizational context includes the basic structure of the organization (e.g., lateral, hierarchical), the information system, the education system, and the reward system. It includes organizational policy and material and physical resources required to accomplish group tasks. Even if a team possesses spectacular skills, motivation, and coordination, lack of critical organizational infrastructure such as information, tools, equipment, space, raw materials, money, and human resources will hurt team performance. Teams ideally need a supportive organizational context—one that recognizes and welcomes their existence; responds to their requests for information, resources, and action; legitimizes the team's task and how they are achieving it; and expects the team to succeed (Bushe, 1986).

Team Design

Team design refers to the observable structure of the team (e.g., manager-led or self-managing). It refers to the leadership style within the team, functional roles, communication patterns, composition of the team, and training of members. We examine team design in part II of the book.

Team Culture

Culture is the set of shared meanings held by team members that make teamwork possible. In contrast to team design, which is often deliberate and explicit, team culture includes the unstated, implicit aspects of the team that are not discussed in a formal fashion, but nevertheless shape behavior. Member roles, norms, and patterns of behaving and thinking arise from team design and the structure and system of the organization in which the team operates. One way in which teams develop their culture is by imposing ways of thinking and acting that are considered acceptable. A **norm** is a generally agreed upon set of rules that guide behavior of team members. Norms differ from organizational policies in that they are informal and unwritten. Often, norms are so subtle that team members are not consciously aware of them. Team norms regulate key behaviors such as honesty, manner of dress, punctuality, and emotional expression. Norms can either be **prescriptive**, dictating what should be done, or **proscriptive**, dictating behaviors that should be avoided.

Norms that favor innovation (Cummings & Mohrman, 1987) or incorporate shared expectations of success (Shea & Guzzo, 1987a) may especially foster team effectiveness. Firms that report success in applying work teams have had similar cultures, often guided by philosophies of top managers (Galagan, 1986; Poza & Marcus, 1980; Walton, 1977). Often, culture is more a property of work units than the entire organization. This means that norms may exist in work groups, but not the larger organization. For example, an organization may not have any particular behaviors at lunchtime, but a work team might create a culture where it is expected that people will eat together and brainstorm over lunch.

Norms develop as a consequence of precedent. Whatever behaviors emerge at a

of seating arrangements. Norms also develop because of carryovers from other situations or in response to an explicit statement by a superior or coworker. They may also result from critical events in the team's history. We cover norms in greater detail in part II of the book.

ESSENTIAL CONDITIONS FOR SUCCESSFUL TEAM PERFORMANCE

Obviously, there are a number of factors that must be in place for a team to be successful (Hackman, 1987; Steiner, 1972). The team members must

1. bring adequate *knowledge and skill* to bear on the task;
2. exert sufficient *motivation and effort* to accomplish the task at an acceptable level of performance; and
3. *coordinate* their activities and communication.

Next, we discuss each of these essential conditions in greater detail.

Knowledge and Skill

For teams to perform effectively, members must have the requisite ability, knowledge, and skill to perform the task. This requires that the manager appropriately match people with the right skills to the tasks at hand and to the organizational human resource structure itself. An effective team needs people not only with technical skills, but also interpersonal skills, decision-making skills, and problem-solving skills. Interpersonal skills are crucial for effective management. Executives spend 78 percent of their working time interacting with others, and as much as 50 percent of that time in interactions with subordinates (Mintzberg, 1973). Subordinates reporting good relationships with superiors are better performers, assume more responsibility, and contribute more to their units than those reporting poor relationships (Liden & Graen, 1980).

How do you know whether you have an effective working relationship with someone? As a start, you can consider where your relationship stands on each of the dimensions listed in Table 2-1. If the majority of the dimensions of your relationship are listed on the right-hand side, this means that an effective relationship has developed.

Teamwork is often beneficial because individuals working independently lack the time, skills, and resources necessary to accomplish their goals. However, even talented people may lose confidence in their abilities in the presence of others. We focus on those patterns that interfere with individuals' ability to perform their best in certain social situations and, in particular, in the context of a team. Examples of this may include shyness (when someone is uncomfortable speaking up in a group meeting but may have valuable contributions to make on paper), a fear of acting in public (such as a fear of public speaking), aggressive or overbearing behavior (such as when an uncomfortable social situation causes someone to act loudly or aggressively), and so on. The paradoxical performance effect, or *choking under pressure*, occurs when a person's performance declines despite incentives for optimal performance (Baumeister, 1984).

For example, consider Lorraine. When she is questioned or challenged by other

TABLE 2-1 Summary of Dyadic Dimensions Along Which Relationships Develop

| From | To |
|---|---|
| <i>Openness and Self Disclosure</i> ^{a, b, c, d, f} Limited to "safe," socially acceptable topics | Disclosure goes beyond safe areas to include personally sensitive, private, and controversial topics and aspects of self |
| <i>Knowledge of Each Other</i> ^{b, d, c, f} Surface, "biographic" knowledge: Impressionistic in nature | Knowledge is multifaceted and extends to core aspects of personality, needs, and style |
| <i>Predictability of Other's Reactions and Responses</i> ^{b, d, c, f} Limited to socially expected or role-related responses, and those based on first impressions or repeated surface encounters | Predictability of the other's reactions extends beyond stereotypical exchange and includes a knowledge of the contingencies affecting the other's reactions |
| <i>Uniqueness of Interaction</i> ^{a, b, c} Exchanges are stereotypical, guided by prevailing social norms or role expectations | Exchanges are idiosyncratic to the two people, guided by norms that are unique to the relationship |
| <i>Multimodality of Communication</i> ^{a, b} Largely limited to verbal channels of communication and stereotypical or unintended nonverbal channels | Includes multiple modalities of communication, including nonverbal and verbal "short-hands" specific to the relationship or the individuals involved; less restrictiveness of nonverbal |
| <i>Substitutability of Communication</i> ^{a, b} Little substitution among alternative modes of communication | Possession of and ability to use alternative modes of communication to convey the same message |
| <i>Capacity for Conflict and Evaluation</i> ^{a, b, c, e} Limited capacity for conflict; use of conflict-avoidance techniques; reluctance to criticize | Readiness and ability to express conflict and make positive or negative evaluations |
| <i>Spontaneity of Exchange</i> ^{a, b, c} Interactions tend to be formal or "comfortably informal" as prescribed by prevailing social norms | Greater informality and ease of interaction; movement across topical areas occurs readily and without hesitation or formality; communication flows and changes direction easily |
| <i>Synchronization and Pacing</i> ^{a, b} Except for stereotyped modes of response, limited dyadic synchrony occurs | Speech and nonverbal responses become synchronized; flow of interaction is smooth; cues are quickly and accurately interpreted |
| <i>Efficiency of Communication</i> ^{a, b} Communication of intended meanings sometimes requires extensive discussion; misunderstandings occur unless statements are qualified or elaborated | Intended meanings are transmitted and understood rapidly, accurately, and with sensitivity to nuance |
| <i>Mutual Investment</i> ^{b, c} Little investment in the other except in areas of role-related or situation interdependencies | Extensive investment in other's well-being and efficacy |

a. Altman & Taylor, 1973, pp. 129-136.

b. Levinger & Snoek, 1972; Levinger & Rausch, 1977, pp. 100-109.

c. Jourard, 1971.

d. Hinde, 1979, pp. 133-134.

e. Swensen, 1973, pp. 105-106, 230-237, 455.

f. Triandis, 1977, pp. 191-193.

g. Secord & Backman, 1964.

Source: Galegher, J., Kraut, R. E., & Esjido, C. 1990. *Intellectual Teamwork: Social and Technological Foundations*

defensive. She is aware that this behavior is not useful and is trying to respond to others in a nondefensive fashion. Last week, a colleague challenged Lorraine and she responded in a highly relaxed and receptive fashion. However, when Lorraine was meeting with her team yesterday, someone questioned her, and she became highly defensive. What is going on?

Lorraine is not alone in her seemingly strange behavior. Being around other people is stimulating. This arousal or stimulation enhances our performance on tasks that we are experts in, but hinders our performance on novel tasks. Consider, for example, what happens to pool players when they are observed by others in pool halls (Michaels, Brommel, Brocato, Linkous, & Rowe, 1982): Novice players perform worse when someone is watching. In contrast, expert players' games improve dramatically when they are observed. Similarly, joggers speed up on paths when someone is watching them and slow down when no one appears to be in sight (Worringham & Messick, 1983). People giving impromptu speeches perform worse in the presence of others than when alone. What determines whether someone's behavior improves or falters in the presence of a group?

Social facilitation is the predictable enhancement in performance that occurs when people are in the presence of others. **Social impairment** occurs when people are the center of attention and they are concerned with discrepancies between their performance and standards of excellence.

The key question for team players is how to ensure that their behavior is the optimal response. There are two routes. *Expertise* is one way: Experts are trained to focus on what matters most. *Practice* and *rehearsal* is another strategy: It modifies the behavioral response hierarchy, so that the desired response becomes second nature. However, being an expert does not completely protect people from choking. Just look at professional players on sports teams. In the championship series in professional baseball and basketball, the home team is significantly more likely to lose the decisive game than it is to lose earlier home games in the series (Baumeister & Steinhilber, 1984). Why? Remember that expertise is the result of overlearning. The pressure to perform well causes people to focus their attention on the process of performing—the focus of attention turns inward. The more pressure, the more inwardly focused people become. The problem is that when people focus on what are overlearned or automated responses, this actually interferes with performance (Lewis & Linder, 1997). As an example, consider shoelace tying. Most adults are experts at tying their own shoes. This comes from years of practice. Most people can carry on conversations without thinking about the process of shoelace tying when they are engaged in the act. Now, suppose that you had to tie your shoes onstage in front of an audience that was watching and timing you. You might become so preoccupied with the process that you would actually perform worse than if you were not under pressure. In short, hyper-self-awareness interferes with the ability to perform.

It is best to avoid trying to learn difficult material or perform complex tasks in groups, because peer pressure will obstruct performance. However, if team members are experts, they will likely flourish under this kind of pressure. Practice not only makes perfect, but it makes performance hold up under pressure. Not all teamwork needs to

Effort and Motivation

It is not enough for members of a team to be skilled, they also must be *motivated* to use their knowledge and skills to achieve shared goals. Contrary to popular opinion, motivation is not strictly based on external factors, like reward and compensation. Motivation comes both from within a person and from external factors. People by nature are goal directed, but a poorly designed team or organizational environment can threaten team dedication and persistence. At certain times, members of a team can develop a defeatist attitude: They may feel that their actions do not matter, that something always goes wrong to mess things up (for example, a sports team on a losing streak), or that their input is not listened to. This can also happen if team members feel they are unable to affect their environment or cannot rely on others. As a case in point, consider Sidebar 2-1.

Sidebar 2-1. Game of Envelopes and Money

Consider the "envelopes and money" game (Murnighan, 1992). In this game, an envelope is passed around a room and team members can choose to donate money to the envelope. The instructor (or leader) states that if a certain amount of money is collected, all group members will be given a bonus of \$10, but that their original donation will not be returned, as it is anonymous. Theoretically, it is possible for all group members to make a positive profit, but this requires trust on the part of members that all others will contribute. Inevitably, the group donations fall short of what is needed to gain bonuses.

Social Loafing

A German agricultural engineer named Max Ringelmann was interested in the relative efficiency of farm labor supplied by horses, oxen, machines, and men. In particular, he was curious about their relative abilities to pull a load horizontally, such as in a tug-of-war. In one of his experiments, he had groups of 14 men pull a load and measured the amount of force they generated; he also measured the force that each of the men could pull independently. There was nearly a linear decline in the average pull per member as the size of the rope-pulling team increased. One person pulling on a rope alone exerted an average of 63 kilograms of force. However, in groups of three, the per-person force dropped to 53 kilograms, and in groups of eight, it reduced to only 31 kilograms per person—less than half of the effort exerted by people working alone (Ringelmann, 1913; summarized by Kravitz & Martin, 1986). This detailed observation revealed a fundamental principle of teamwork: People in groups often do not work as hard as they do when alone. This is known as **social loafing**.

Team performance increases with team size, but the rate of increase is negatively accelerated; the addition of new members to the team has diminishing returns on productivity. Similar results are obtained when teams work on intellectual puzzles (Taylor & Faust, 1952), creativity tasks (Gibb, 1951), perceptual judgments, and complex reasoning (Ziller, 1957). Social loafing has been demonstrated in many different cultures, including India (Werner, Ember, & Ember, 1981), Japan (Williams & Williams, 1984), and Taiwan

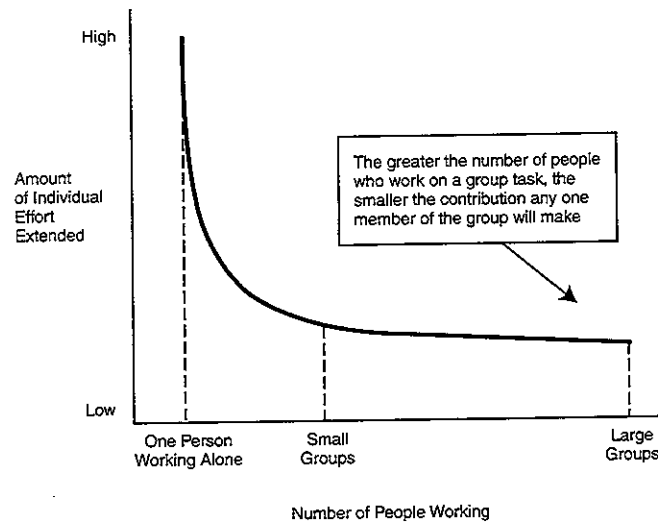


FIGURE 2-2 The Social Loafing Effect

Source: Greenberg, J. 1996. *Managing Behavior in Organizations*, Upper Saddle River, NJ: Prentice Hall. (p. 189)

Free Riders

Many team leaders have asked: Is my team working as hard as it can? Their suspicions may be correct: People's motivations often diminish in a team. Also, the larger the team, the less likely it is that any given person will work hard. For many team tasks, there is a possibility that others can and will do most or all of the work necessary for the team to succeed. This means that free riders benefit from the efforts of others while contributing little or nothing themselves. Team members are sensitive to how important their efforts are perceived to be: When they think their contributions are not going to have much impact on the outcome, they are less likely to exert themselves on the team's behalf.

Suggestions for Avoiding Free-Rider Problems How do teams react once a free rider has been detected? As a general principle, people don't like free riders one bit. Team members want equitable working arrangements. Indeed, a strong work ethic holds in most teams, with greater rewards coming to those who work harder. If someone is not working as hard, the other team members might attempt to reduce that person's reward (e.g., not allow Stan to put his name on the group report if he has not contributed) or reduce their own inputs (i.e., the other members of the group might stop

the greatest cost from this kind of behavior: When everyone stops working hard in retaliation against someone else's bad conduct, ultimately, the work does not get done or done well. In this case, the free rider may suffer no direct repercussions. Hence, this kind of behavior can be a serious threat to team productivity in the workplace.

Why do people loaf and free ride? Three reasons: Diffusion of responsibility, a reduced sense of self-efficacy, and the sucker effect.

Diffusion of Responsibility

In a team, a given person's effort and contributions are less identifiable than when that person works independently. This is because everyone's efforts are pooled into the team enterprise and the return is a function of everyone's contribution, considered jointly. Thus, it becomes difficult to separate one person's contribution from another. At an extreme, this can lead to **deindividuation**—a psychological state in which a person does not feel a sense of individual responsibility. As a result, the person is less likely to perform or contribute. Consider, for example, a dramatic, real-world illustration. A woman named Kitty Genovese was on her way home from work late one evening in New York (based upon Latané & Darley, 1968). She was attacked by a man and stabbed to death. Thirty-eight of her neighbors in the apartment building where she lived witnessed the attacker approach and slay her; however, not a single person so much as called the police.

Upon hearing this story, most people are horrified and attribute the neighbors' lack of assistance to social and moral decay. We might look at this, however, from another perspective: People are more likely to free ride as the number of others in the group increases. Observers in the apartment building who knew that others were also watching felt less responsible and so less inclined to intervene. In effect, they told themselves, "Someone else has probably already called for help." Why inconvenience yourself when it is likely the woman will receive help from someone else? Of course, if everyone thinks this way, the probability that the victim eventually gets help decreases dramatically.

Reduced Sense of Self-Efficacy

In some cases, it is not diffusion of responsibility that hinders people from contributing to a team effort, but rather the feeling that their contributions will not be as valuable, efficacious, or worthwhile as they might be in a smaller group. The individual may feel that any contribution will not be sufficient to justify the effort. Consider, for example, the problem of voting. Most everyone agrees that voting is a good practice. Why then did only 48 percent of the eligible U.S. population turn out to vote during the presidential election of 1996? Individuals may feel that their vote has such a small impact on the outcome that voting is not worthwhile. Similarly, team members may feel they lack the ability to positively influence a team's outcome.

Sucker Effects

A common concern held by team members is whether someone will be left doing all of the work and getting little or no credit (Kerr, 1983). Because everyone wants to avoid being taken advantage of, team members hedge their efforts, and wait to see what others will do. The problem is that when everyone does this, no one contributes. When people see others not contributing, it confirms their worst fears. The sucker effect be-

Suggestions for Enhancing Successful Team Performance

Suppose you are managing a team that processes insurance claims. Prior to the formation of teams, you measure average claim processing time and find it to be 3 days. After forming the teams, you find the average has increased to about 9 days. Has your team fallen victim to social loafing? Your upper-division manager advises you to immediately dismantle the teams. Someone else tells you that the company's incentive system needs to be overhauled. What do *you* think?

Before you dismantle the teams or completely restructure the company's entire pay structure, consider the following strategies:

Public Posting: Make Individual Team Members' Contributions Identifiable When each member's contribution to a task is displayed where it can be seen by others (e.g., weekly sales figures posted on a bulletin board or e-mail), people are less likely to loaf, or slack off, than when only overall group (or companywide) performance is made available (Kerr & Bruun, 1981; Williams, Harkins, & Latané, 1981). Whole Foods subscribes to this line of thinking by collecting and distributing vast amounts of performance data throughout all levels of the organization. Sensitive figures on store sales, team sales, profit margins, and even salaries are available to every person in every location. It collects and distributes information to an extent that would be unimaginable almost anywhere else. In fact, the company shares so much information so widely that the Securities and Exchange Commission (SEC) has designated all 6,500 employees "insiders" for stock-trading purposes (Fishman, 1996). However, the key is not identifiability *per se*, but rather the evaluation that identifiability makes possible (Harkins & Szymanski, 1987; Harkins & Jackson, 1985).

Make the Task Involving, Interesting, and Challenging Social loafing may be eliminated if the task is sufficiently involving (Brickner, Harkins, & Ostrom, 1986), attractive (Zaccaro, 1984), or intrinsically interesting (Petty, Cacioppo, & Kasmer, 1985). When the task is challenging and interesting, people feel more motivated to perform. Generally, when tasks are highly specialized and routinized, monotony sets in; in contrast, when team members are responsible for all pieces of a work product or service, they feel more responsibility for the work. This is perhaps why many companies, such as IBM Credit Corporation, restructured into teams that handle all aspects of a credit application. The walk-through time in IBM Credit Corporation for a single credit application decreased from 9 days to 2 days. This is largely because teams of individuals feel personally responsible for a particular client in a way that they did not feel before the restructuring.

Reward Team Members for Performance This means that team members should recognize and reward contributions by individuals. This need not mean large financial incentives. Symbolic rewards are often more powerful than money. Sales managers may strategically use symbolic rewards, such as high-performer sales clubs or plaques and ceremonies honoring exemplary service, to deliver messages to the salesforce. These can be used to underscore the values of the sales organization and help shape salesperson behavior.

It is often more important for team members to feel appreciated and acknowledged by the members of their team than by outsiders. There can be serious consequences if people feel they are not valued and respected, so much so that people are more likely to cheat and steal from the organization when they feel they have been unfairly treated

he put in a lot of work on a redesign team, and none of his suggestions were implemented. After that, he began to make personal long-distance calls and take office supplies, feeling that he was owed these things due to his unappreciated hard work.

Build Trust among Team Members People worry a lot about being a sucker, especially when the norms of a team are created early on and people get labeled. Leaders can demonstrate trust by putting themselves in a vulnerable position. By showing vulnerability and requiring trust, leaders show they trust the team and set that expectation. Cohesive teams are less inclined to loaf (Williams, 1981).

Make People Feel Personally Responsible and Accountable for the Team's Actions The buck stops with the team. When teams set their own performance goals, they are less likely to loaf (Brickner, Harkins, & Ostrom, 1986).

Team Contract Ideally, at the outset of teamwork, members should develop a written statement of objectives and practices. This should be written up and posted. According to Katzenbach and Smith (1993), the best teams in their extensive study invest a tremendous amount of time and effort exploring, shaping, and agreeing on a purpose that belongs to them collectively and individually. This "purposing" activity continues through the life of the team. In contrast, failed teams rarely develop a common purpose. The best teams also translate their common purpose into specific performance goals.

Team Performance Review and Feedback Team members should periodically review and evaluate others. This can be conducted on a formal or informal basis.

Decrease Team Size As the team gets larger and larger, personal contributions to the team become less important to the team's chances of success (Olson, 1965; Kerr, 1989). In short, as team size increases, feelings of anonymity increase.

Suppose that you implement the preceding steps, and your team's performance is still less than what you think is possible. What should you do? Consider the third source of threats to productivity: Coordination problems.

Coordination Strategies

Ability and motivation are essential and desirable, but insufficient for effective team functioning. A team needs to *coordinate* the skills, efforts, and actions of its members so as to effectively enact team strategy. For example, distributed.net is a coordinated team of computer programmers and enthusiasts. Armed with tens of thousands of computers linked over the Internet, distributed.net solved the Data Encryption Standard (DES) Challenge II sponsored by RSA Data Security, Inc. The goal of the challenge was to break the 56-bit security code provided by the government's DES and recover the secret key used to encrypt messages. As the *PR Newswire* reported on February 26, 1998: "The distributed.net team met the challenge in 39 days, less than half the 90 days of computing time it took the original challenge to be solved by a university team. The distributed.net organization utilized the idle time of computers throughout the world to solve particularly arduous computing tasks. For the DES Challenge II, the team managed to coordinate the efforts of 22,000 participants throughout the world, linking together over 50,000 computers to power through 72 quadrillion possible keys. One by

was found to decode the message encrypted with the DES algorithm.” This feat was possible because the team was highly coordinated.

Coordination problems must be surmounted for a team to be effective. Team members may be individually good at what they do, but unless they coordinate their activities, like distributed.net, they will not meet their team objectives.

Coordination is the combined synchronization of the strategies of all members. Teams vary in terms of their coordination or synchrony. Consider a football team—the slightest misunderstanding about a play can lose the game. Another example is a rowing team or a dance troupe—unless everyone is synchronized, they cannot achieve their performance goals, no matter how skilled and motivated the individuals. This is why teams often sing or chant to synchronize their movements and actions. Sir Adrian Cadbury, former chairman of Cadbury Schweppes, rowed in the 1952 Olympics. “Sir Adrian took more than the lesson of timing from the world of rowing when he entered corporate life. ‘What has always been important to me is the team—rowing taught me that. More importantly, trust.’ Rowing is certainly a sport that places more emphasis on team harmony than others—there’s less scope for those with individual flare to shine. ‘The beauty of racing in a crew is that you learn that any victory is the combined effort of everyone. In the same way company results reflect the performance of the whole firm.’” (Phelps, 1996, p. 110).

Coordination problems increase with team size and do so in an accelerating manner. The number of ways in which a team can organize itself (e.g., divide responsibilities, combine contributions, coordinate efforts) increases rapidly as the team gets larger (Kelley, 1962).

Most of the threats to team productivity are attributable to coordination problems, but most managers, used to thinking in terms of ability and motivation, fail to realize this—an example of the misattribution problem discussed in chapter 1.

Most people take coordination and communication in teams for granted. In other words, they do not anticipate that their handwriting will be misread by a teammate or that a fax won’t go through. People have a biased sense about the clarity of their own messages and intentions. They may not be as clear as they think they are. The problems in communication and coordination are compounded when the medium of communication is less rich, such as in e-mail, fax, and videoconferencing (a topic discussed in part III on global teamwork).

What are some practical steps to ensure better coordination of efforts within teams?

Use Single-Digit Teams

Most teams are too large. As the number of people on a team increases, it is that much harder to schedule meetings, move paperwork, and converge on ideas. The incidence of unanticipated failure increases. As a rule of thumb, teams should have fewer than 10 members and just enough to cover all needed skill areas.

Have an Agenda

Members need a clear sense of where they are going and how they will get there. If the team does not know where it is going, its efforts will be fragmented and members will waste time and energy.

Train Team Members Together

Team members who train together, as opposed to separately, work more effectively. This is because they have an opportunity to coordinate their strategies. A side benefit of training team members together is that training provides an opportunity for building trust.

Practice

Teams are low on the learning curve when the team members begin to work with one another. A team might be motivated and highly skilled, but naive in terms of communicating with one another in a highly synchronized and coordinated fashion. Teams require more practice than individuals.

Minimize Links in Communication

For most tasks, it is better for team members to be able to directly access one another rather than going through others (gatekeeping).

Set Clear Performance Standards

Every team needs clear performance standards. In the absence of performance standards, it is impossible to evaluate the effectiveness of a team. The most common means by which individuals are evaluated by organizations is through a performance appraisal, which we discuss in detail in the next chapter. Many performance appraisals are routine and occur on a regular basis. In the best of circumstances, they are objective, based upon hard facts and deliverables. People receive valuable and telling feedback about what they are doing well and what they need to work on. Should performance appraisals be used when evaluating team performance?

If so, how do we know whether a team is performing effectively? If this question is hard to answer, then it will be difficult to pull together a high-performance team and diagnose problems before they threaten team performance. Furthermore, even if you happen to be in the fortunate position of working on a successful team, unless you understand what makes your team effective, you may make the wrong choices or be indecisive at inopportune times.

Team performance evaluation is more difficult than individual performance evaluation. Teams are harder to track, and higher turnover can blur the relationship between the actions that people take and the results achieved by the team. Nevertheless, it is still possible to do a rigorous performance evaluation on teams, just as it is with individual employees. In this chapter, we consider *what* factors are important to consider in assessing team performance. In the next chapter, we deal with the thornier issue of *how* to do the actual measuring and structure the incentive system.

PERFORMANCE CRITERIA

What are the criteria by which we should evaluate team effectiveness? By performance criteria, we mean those factors used to evaluate the success or failure of a team effort. Hackman (1987) identified three key criteria in his model of group effectiveness: Productivity, satisfaction, and individual well-being. To this, we add a fourth criterion, organizational time supported by Chesford (1998).

Productivity is probably the most important measure of team success. Did the team achieve its goals? Team productivity requires that the team have a clear goal and be able to adapt accordingly as new information arrives, goals change, and organizational priorities shift. This also holds true for changes in the marketplace—for example, the entrance or exit of a competitor or a stock market plunge. There are many different dimensions to productivity. For instance: What was the team's output? How does the output correspond to the team's original goals? How quickly or timely were results achieved? How effective was the outcome? What is the correspondence between the team output and a measurable accomplishment (such as improved market share, new product development, etc.) by the firm? Efficiency is also important: If the team's goals were accomplished, at what cost did this happen? Was it worth it? The productivity of a team is highly correlated with its goals, as well as the ability of the team to adapt, change, and accommodate the goals in the face of new information, changing organizational priorities, and the changing marketplace.

The productivity criterion asks whether the team's output meets the standards of those who have to use it—that is, the end user. It is not enough that the team is satisfied with the output or even that it meets some objective performance measure. If the team's output is unacceptable to those who have to use it, the team is not effective.

For these reasons, it is important to identify the legitimate clients of the team. The various end users who depend upon the team's output may focus on different performance standards (e.g., quantity, quality, cutting costs, innovation, and timeliness).

For many people, the buck stops here; anything else is inconsequential. We disagree. A second major criterion on team performance is *team satisfaction and well-being*. Did the team learn something from working together and are its members better able to work together in the future? Sometimes, teams meet their goals, but relationships suffer and are not dealt with in a way that allows members to work productively together in the future. "Mutual antagonism could become so high that members would choose to accept collective failure rather than to share knowledge and information with one another" (Hackman, 1990, p. 6). In an effectively functioning team, the capability of members to work together on future projects is maintained and strengthened.

It is worthwhile to ask why team satisfaction is important, as opposed to being just a nice side benefit. For example, if a team successfully puts a person on the moon, is this not a success regardless of whether the team experienced satisfaction? The main reason has to do with the future of the team or project. If the team effort really and truly is a one-time effort, then maximizing team satisfaction may not be necessary. However, most of us want to build teams that will last for some meaningful length of time. If team members do not enjoy working on a team, performance will suffer. A manager in Société Générale, a French investment bank and corporate finance institution, summed it up by saying, "I ask myself whether I want to work with these people again. If the answer is yes, then the team was successful. If the answer is no, the team was not successful."

Successful teamwork means that the team accommodates to changes in membership due to additions, growth, and turnover. A prime example of this kind of teamwork is evident at Whole Foods Market Inc. Everyone who joins Whole Foods quickly grasps the

of new hires for full-time jobs. Store leaders screen candidates and recommend them for a job on a specific team. But it takes a two-thirds vote of the team, after what is usually a 30-day trial period, for the candidate to become a full time employee. Successful teamwork means that team members may need to routinely reject candidates. According to CEO John Mackey, teams do not become effective until they have rejected someone: "They're saying, 'This person isn't good enough to be on our team.' They're standing up to the leader, taking ownership of their team, saying, 'Go back and try again'" (Fishman, 1996, p. 103).

In addition to the functioning of the team as a whole, the development and satisfaction of the individual members is also important. Thus, a third major criterion of successful teamwork is *individual growth*. Simply stated, teams should represent growth and development opportunities for the individual needs of the members. Human beings have a need for growth, development, and fulfillment. Some teams operate in ways that block the development of individual members and satisfaction of personal needs. In short, members' needs should be more satisfied than frustrated by the team experience. Teams should be sensitive to members and provide opportunities for members to develop new skills. This does not mean that teams, or for that matter, organizations, exist to serve individual needs; rather, successful organizations create opportunities that challenge individual members. Whole Foods addresses this potential problem by putting the fate of the team in the hands of the team members. "The company's gain-sharing program ties bonuses directly to team performance—specifically, sales per labor hour, the most important productivity measure at Whole Foods. Democracy reinforces discipline: Vote for someone who doesn't perform, and your bonus may go down within months" (Fishman, 1996, p. 103).

Another perspective is that of the larger organization. Thus, a fourth criterion of team performance is *organizational gains*. Does the organization benefit from the team? In many instances, the team becomes so self-serving and egocentrically focused that it loses sight of the organization's larger goals. (This is most likely the case with teams that have greater autonomy.) This can occur when the team's goals are incompatible with those of other departments or areas. If, for instance, a company's sales force dramatically improves sales over a short period of time, this does no good for the company. In fact, it could even hurt the company, if the manufacturing group cannot fulfill the promises made by the sales force or if the technical support group cannot handle the new customer calls. This is an example where the sales strategy backfired at the organizational level.

In other cases, different teams in the organization may reinvent things already developed by the organization because they are not able to learn from outside their group.

At the heart of this issue is **integration**: It is important for teams to understand the organization's goals in order to work effectively toward them. Teams need to integrate with other units in the organization. Practically, this means that teams must disseminate information, results, status reports, failures, expertise, and ideas in a timely and efficient manner.

Achieving organizational gains requires solid planning and coordination with the rest of the firm. According to Jeff McHenry, Director of Executive Development at Microsoft, "the single most important factor is that effective teams have a clear goal. They work toward something. And everybody understands what the goal is. We tend to hire people who are achievement-oriented and results driven. When they don't have a

Team Performance Analysis

Conduct a performance analysis of your team using the following four criteria as a baseline. Remember, you don't have to wait until the team is finished with its task to begin an evaluation. It is actually best to continually assess performance as the team is working toward its goal.

TEAM PRODUCTIVITY

- Does the team have a clear goal?
- What objective performance measures have been established at the outset of teamwork?
- Who are the legitimate clients of the team?
- Does the team's output (e.g., decisions, products, services) meet the standards of those who have to use it?
- Under what conditions should the goal change?
- What sources of information should the team consider to assess whether the initial goal might need to be changed?

TEAM SATISFACTION

- Do the team members enjoy working together?
- What conditions could lead to feelings of resentment?

- What conditions could prevent team members from working together in the future?
- How can team members best learn from one another?
- How are team members expected to accommodate to changes, such as additions to the team, growth, and turnover?

INDIVIDUAL GROWTH

- Do the individual team members grow and develop as a result of the team experience?
- Do team members have a chance to improve their skills or affirm themselves?
- What factors and conditions could block personal growth?
- Are individuals' growth needs understood and shared by group members?

ORGANIZATIONAL GAINS

- How does the team benefit the larger organization?
- Are the team's goals consistent with those of the larger organization?
- What other groups, departments, and units are affected by the team?
- What steps has the team taken to integrate its activities with those of others?

goal, they tend to flounder because they have nothing to work toward. When they do have a goal, their achievement orientation takes over—and great things happen" (Anonymous, 1996).

Box 2-1 is an executive summary of our team performance analysis, which can be performed by team members or team leaders. The relative importance of each of the four criteria vary across circumstances, and there is no single best set of conditions for optimizing performance. There are many ways a team can perform work well and, un-

equifinality (Katz & Kahn, 1978)—a team can reach the same outcome from various initial conditions and by a variety of means.

THE TEAM PERFORMANCE EQUATION

Now that we have discussed the four critical measures of team performance and the three key ingredients for team success, we can put all these factors together in a single equation for the manager to use when assessing team performance (Steiner, 1972):

$$AP = PP + S - T$$

Where *AP* = Actual Productivity;
PP = Potential Productivity;
S = Synergy;
T = Performance Threats.

The actual productivity of a team is a function of three key factors: The potential productivity of the team, synergy, and threats. The first factor, the **potential productivity** of a team, depends on three subfactors: Task demands, the resources available to the team, and the team process.

Task demands are the requirements imposed on the team by the task itself and the rules governing task performance. Task demands determine the resources needed for optimal performance and how to combine resources. **Resources** are the relevant abilities, skills, and tools possessed by people attempting to perform the task. **Process** concerns the way teams use resources to meet task demands. *Team process* describes the steps taken by the team when attempting the task and includes nonproductive as well as productive actions. The task demands reveal the kinds of resources needed; the resources determine the team's potential productivity; and the process determines the degree of potential realized.

Synergy refers to everything that can and does go better in a team compared to individuals working independently (Collins & Guetzkow, 1964). **Performance threats** refer to everything that can go wrong in a team. Unfortunately, teams often fall below their potential; there is considerable **process loss**, or underperformance, due to coordination problems and motivational problems (Davis, 1969; Laughlin, 1980; Steiner, 1972). As a general principle, managers can more easily control threats than synergies. Synergies can emerge, but they usually take more time than anyone expects. Therefore, the manager's job is to set the stage for synergies by attempting to minimize all possible threats.

CONCLUSIONS

Unless a team has a clear goal, it will be impossible to achieve success. However, having a clear goal in no sense guarantees successful team performance. Successful team performance is a multidimensional concept. To be sure, managers want their teams to satisfy the end user or client, but they also need to make sure that teamwork is satisfying and rewarding for the members. If the team does not enjoy working together, sustaining long-term productivity will be impossible. Moreover, managing a team success-

teamwork ultimately needs to be a growthful and rewarding experience for team members. Finally, as organizations move toward flatter structures and greater team empowerment, the possibility arises that team goals may become superordinate to those of the larger organization. A successful team is integrated with the larger organization. Putting teams on a course to achieve these four markers of success requires a combination of managing the internal dynamics of teams (ability, motivation, and coordination) as well as the external relations of teams within the larger organization. One of the most effective things a manager can do to ensure team success is to adopt a preventative approach and undertake an analysis of the essential conditions affecting team performance. One of the biggest managerial shortcomings in terms of teamwork is a failure to account for threats to team performance. This is unfortunate because managers can more easily control threats than synergies.