NEW RULES FOR TEAM BUILDING

Whenever I board a commercial airline flight, I have the impulse to stick my head in the cockpit and ask, "First trip flying together?" I would never actually do such a thing, of course. But it comes to mind because of some analysis by the National Transportation Safety Board that has profound implications for airlines, their passengers, and anyone who creates or leads organizational teams.

In a 1994 study, the NTSB staff combed its database to identify the circumstances under which cockpit crews are most likely to get into trouble. Surprisingly, they found that 73% of all incidents occurred on a crew's first day of flying together, and almost half (44%) took place on a crew's very first flight. The lesson for all businesses? Teams are most vulnerable to mishaps when they're starting out, before they've had the chance to learn through experience how to best work together.

The NTSB analysis reinforced earlier findings by NASA's Ames Research Center. Attempting to assess the effects of fatigue on pilot behavior, the researchers unexpectedly wound up with evidence suggesting that there are real benefits to keeping teams together. They recruited a number of crews as they returned from several days on the job, and compared their performance on a moderately demanding scenario in an aircraft simulator to that of crews whose members had been off duty for several days.

As one would expect, the pilots returning from multiple-day trips were tired—and individual members of those crews made more mistakes than rested pilots did. But the surprising finding was that fatigued crews made significantly fewer errors than did crews composed of rested pilots who had not yet flown together. The experience they gained working together as a team more than overcame the debilitating effects of individual fatigue.

There are many reasons why reasonably stable teams perform better. Members develop familiarity with one another and with their collective task, so they can quickly settle in and get to work rather than waste time and energy getting oriented. They build a shared pool of knowledge that's more comprehensive than that of any individual team member. They learn who is especially knowledgeable or skilled in different aspects of the work, and how to deal with members who are less skilled without excessively disrupting the team's progress. And gradually, they grow a shared commitment to the team and a measure of caring for one another.

The NASA findings, along with those of many other studies, confirm the advantages
of stable, well-bounded teams. Yet most airlines, like many companies, still train team members as individuals and change crew composition constantly because of long-standing practices enforced by labor contracts. Why have airline managements, pilot unions, and federal regulators—despite their commitment to flight safety—not jumped to implement policies based on the new research findings? For one thing, they don’t want to believe them. Conventional wisdom says teams learn to work together early on, but that the learning eventually plateaus, and finally yields to overfamiliarity. “Everyone knows” that if a team stays together too long, members become too comfortable, too lax in enforcing standard procedures, and too ready to forgive teammates’ mistakes. Only a constant flow of new members keeps teams on their toes.

Everyone knows these things—but they simply aren’t true. Members of competently designed teams do learn fairly rapidly how to work together. But there’s little evidence that the learning stops at some point. Like the Guarneri String Quartet, which has continuously improved its music-making over more than three decades of playing together, the best teams get better and better indefinitely.

Unclear team boundaries and membership instability are pervasive and pernicious problems not just for airlines, but for many types of work teams, including project task forces, senior-management teams, sales teams, and increasingly, virtual teams whose membership may be as fluid and uncertain as it is dispersed.

FIVE QUESTIONS TO ASK

Because the work of managers and professionals invariably involves extensive engagement with a wide variety of individuals and groups, teams made up of these creative personalities are at special risk for what organizational psychologists call “underboundedness,” or a lack of clear definition. Case in point: I was invited to meet with the top-management team of a large insurance company, about two dozen senior executives. The CEO was increasingly frustrated as he tried to get the team to take on collective responsibility for the well-being of the company as a whole, and the team members were equally unhappy. Everyone wanted to identify just what was keeping these talented and committed individuals from pulling together.

I would argue that these senior managers weren’t a team at all, but merely co-actors. Each member’s main responsibility and accountability was for the performance of his or her own unit. No one was clear on why they were meeting or what they were supposed to do as a team. Nor was it clear exactly who was on the team; there were so many members that it was hard to keep track, especially since substitutes often attended in place of team members. Only one thing was certain: At heart, the CEO believed that running the organization was his job. He really didn’t want the team to make important decisions at all.

Setting boundaries

Teams of many different sizes and durations dot the landscape of every company, and indeed, managerial and professional work does not lend itself to working for a single team for extended periods. Instead, one person is likely to serve simultaneously on a variety of teams that form, reform, and disappear like sand dunes on a windy beach. In one financial institution, almost all professionals serve on multiple teams, some with life spans that extend indefinitely, some created to accomplish a particular task, and some created on the fly to solve an unanticipated problem. But “sand-dune” teams need clear boundaries as much as, or even more than, permanent teams.

Managers and professionals often feel they don’t need the clear team boundaries upon which they insist for the rank-and-file teams that report to them. “We’re experienced at this kind of thing. It’s what we do every day,” one senior manager told me. “We don’t need all the i’s dotted and t’s crossed.” It may be true—but I doubt it—that managers and professionals are skilled at handling ambiguity and uncertainty. But the underbounded character of many such groups makes it hard for them to demonstrate how good they really are at teamwork.

Before a group of co-workers can develop into a superb team, it first must actually be a team—a reasonably stable unit with shared responsibility for a defined piece of work. Beyond that prerequisite, my research collaborators and I have identified three things leaders can put in place to increase the chances of team effectiveness. These are: a compelling direction; an enabling structure and context; and available, expert coaching.

• A compelling direction. It’s up to the leader to establish a team’s direction by specifying and communicating its overall purpose. Direction is critical to energize the team, get it properly oriented toward its objectives,
and engage the full range of members' talents. Everything else depends upon this first step—the team's design, the kinds of organizational supports provided, and the character of leaders' hands-on coaching.

Good direction is clear, so people can orient their work properly; it's consequential for the organization and its customers; and it's appropriately challenging, neither impossibly demanding nor so easy that it's uninteresting.

Managers sometimes use rhetorical devices to try to make a team's direction seem more compelling than it really is. But this is akin to trying to convince brick carriers that they are building a cathedral. It may work for a while, but eventually it becomes clear that they really are simply carrying bricks. When the work is essentially trivial, it's impossible to fully engage members' talents.

In setting direction for a team, managers can focus on the ends to be achieved or the means for pursuing them. Good leaders exercise their authority to specify end states, but not dictate the details. Specifying both ends and means mitigates the challenge to the team and underuses its resources; specifying neither invites anarchy rather than purposive work; and specifying means but not ends is the worst kind of micromanagement.

- An enabling structure and supportive context.

Some teams have difficulty because they're not set up correctly, or their structures and systems undermine members' efforts. Overly elaborate structures just get in the way, while the belief that self-managing teams can work out everything on their own may lead to insufficient structure and support.

Probably the single biggest mistake team leaders make is believing that "the bigger, the better" is the right approach. That's what IBM did in the 1960s when it was creating OS/360, then the largest systems-programming effort ever undertaken. As generally happens with large-scale projects, it was running behind schedule. The temptation in such cases is always to compute how far behind you are and then add staff to make up time. If the project is a dozen person-months behind, perhaps assigning a dozen extra people to it for one month will get it back on track. In retrospect, Frederick Brooks, IBM's manager of systems programming at the time, acknowledged that it's simply not possible to produce a baby quickly by asking nine women to carry it for a month each. Brooks' Law tells us that adding people to a late software project just makes it later.

The best group size depends on the task, of course, but our data points to a simple rule of thumb: No team should have more than six members. I believe in this rule because the number of group-process problems a team experiences tracks not the number of members, but the number of links among members—that is, the total number of paired relations, which compounds at an accelerating rate as size increases. A six-person team has 15 pairs among its members, but a seven-person team has 21—and the difference is noticeable. Twelve people have 66 links. And imagine the process losses in a 24-person board of directors (552 links).

The politics of size

So why do we see so many large teams in the workplace? It likely has more to do with emotional issues than team performance. A large team spreads accountability and is politically expedient, giving all relevant stakeholders a voice so they accept its final product. But its very size hampers its ability to create something usable.

My university has taken a two-pronged approach to creating a functional management team. Harvard has a 30-person Board of Overseers on whom it depends for ideas, perspectives, and, of course, contributions. But the overseers don't govern the university. The decision-making group is the Harvard Corporation, which consists of five outside members plus the university president and treasurer—just about the right size to make the consequential decisions.

Another example: A startup organization once grew to the point at which its dozen founding officers could no longer make decisions in the informal manner that had worked well in the early days. The CEO considered devising a senior-management structure himself. Then, in light of the company's democratic spirit, he considered asking the dozen officers to come up with a structure they all could accept. But he wisely realized that with such enormous personal stakes, the team was unlikely to be able to put the company's needs first.
Finally, the CEO formed a reorganization task force of four highly respected officers to develop a proposal for the new structure. Each member also was responsible for staying closely in touch with three other officers who were not on the task force. The first agenda item at every meeting was a report on the views of the nonmembers, and the last item was an explicit review of what should be communicated to them. Although there were many rough spots along the way, the team eventually came up with a reorganization plan that was accepted by the CEO and the other officers.

- Expert coaching. A leader can promote team effectiveness by helping team members learn to work interdependently and manage themselves. Like teaching, coaching is done best when leaders exploit their own personalities and style to get the lessons across, rather than try to follow some preset formula.

Still, there are particular times when team members are likely to be especially open to coaching. Although I’m uneasy about applying examples of sports teams to the corporate world, as their contexts are so different, the behavior of good athletic coaches illustrates the coaching functions that can be performed at different times in a team’s life. In the locker room before the game, coaches focus on motivational issues, establishing that the contest ahead is challenging but that the team has a real chance to win if members play their best. In the locker room at halftime, coaches move to a consultative role, helping to revise strategy based on how things are going. The next day, as the team reviews the game, coaches emphasize educational interventions, helping the team learn from experience and build proficiency for its next contest.

Even a first-rate coach can make little constructive difference in a team that’s fundamentally flawed. Indeed, a coach may do more harm than good in such a case, by distracting members’ attention from the fundamental aspects of structure or context that they ought to be addressing.

Two questions come to the fore when a team’s direction or design is fundamentally flawed. First, can the purpose and format of the team be restructured to give members a reasonable chance to perform well? And, if not, is it imperative that the team exist at all? There are some kinds of work for which teams are a wholly inappropriate design choice (see chart, p. 56). And there are some settings in which teams can never succeed.

Creative writing, for example, often is assigned to a team, but should not be. Expressing and organizing ideas in writing are tasks inherently better suited to individual than collective performance. Committee reports invariably turn out better when written by one talented individual on behalf of the group rather than by the group as a whole. The same is true for many aspects of executive leadership. The most powerful statements of corporate vision invariably are the product of a single intelligence willing to establish a collective purpose that goes beyond what others believe to be the limits of the organization’s capability.

Design strengths
A team’s basic design also strongly conditions the impact of leaders’ coaching, as was shown in a 2001 study of self-managing field-service teams at Xerox by organizational psychologist Ruth Wageman. For each team studied, Wageman obtained assessments of the team’s design, its level of self-management, the coaching behaviors of its leader, and its measured performance. She predicted that a team’s design features would affect its level of self-man-

**MICROSOFT MAKES LARGE TEAMS LOOK SMALL**

When you’re as big as Microsoft, it’s vital to find a way to harness a large and diverse set of resources without falling victim to the dysfunctions that are typical of oversized teams.

One aspect of Microsoft’s strategy has been to keep its core programming teams small—commonly one program manager and three to eight developers. The company adopts a modular approach to large development projects by providing each team with a clear and concise statement of the vision for its part of the work, and a clear deadline for when the work must be completed. But each team has substantial autonomy to decide what needs to be done.

Even the development centers within which the teams operate, and whose managers watch over the links among the separate modules, are relatively small. They usually have no more than 300 to 400 people for work that might be performed in a 1,000-person unit in a traditionally structured organization.
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agement and performance more than the leader's coaching behaviors would—and she was right. Design was four times as powerful as coaching in affecting a team's level of self-management, and almost 40 times as powerful in affecting team performance.

Perhaps the most fascinating finding of the Wageman study turned up when she compared the effects of "good" coaching—such as helping a team develop a task-appropriate performance strategy—with those of "bad" coaching—such as identifying a team's problems and telling members exactly how to fix them. Good coaching significantly helped well designed teams, but made almost no difference for poorly designed teams. Bad coaching, on the other hand, significantly compromised the ability of poorly designed teams to manage themselves, worsening an already difficult situation, but did not much affect the self-management of well designed teams.

A good team design yields a double benefit: Teams are likely to have less need for coaching interventions because they encounter fewer problems that lie beyond their own capabilities, and the coaching they do receive is likely to be more helpful because the team is not pre-occupied with more basic, structurally rooted difficulties. Over time, such teams may become skilled at coaching themselves and perhaps even enter into a self-fueling spiral of ever-increasing team capability and performance effectiveness.

The challenge of designing the optimal team structure for every purpose will always be with us. That's as it should be, since a team's basic design is what provides the platform on which members do their work. Devoting time, thought, and energy to making that platform as high and sturdy as it can be is always a good investment, whether people will be working together around the same table or dispersed around the globe, communicating and coordinating their activities electronically.

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**FIRST MONTH:** Conduct an informal, personal audit of the teams in your domain. How many are there? What purposes do they serve? What criteria do you use to assess how well they're doing? Consider disbanding teams that have no consequential purpose, could be replaced by an individual, or are making no discernible progress.

**SECOND MONTH:** Identify the handful of teams that have the greatest leverage in achieving strategic objectives. Assess each one's direction, design, and support. Does the team have a compelling direction, but lots of latitude in how to achieve those goals? Is it well structured, with no more members than are absolutely necessary? Does it have access to expert coaching to help members get over rough spots and exploit emerging opportunities? You probably will find room for improvement for many teams—perhaps most of them. Identify the people—yourself, your staff, or team-savvy consultants—who are best positioned to tune team structures or provide the support they need. Charge those people with improving the teams' work situations within the next month.

**THIRD MONTH:** Reassess the direction, design, and support of each of the teams targeted at the start of the second month. For those that still need help, identify the main roadblocks to improvement and personally take action to remove or circumvent those roadblocks. For those whose work situations have improved, meet to explore how they can exploit their favorable performance situation to accomplish their team work even better.

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