

Business Development

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▼ Converting biotech scientists to managers

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Far too many people with technical expertise stumble on the path to management.

The transition from technical contributor to technical manager is difficult. In biotechnology companies around the world, scientists are often given the responsibility for people and projects without a second thought or additional training. Some of them make the transition, but most experts agree that the industry has had a rough time with this changeover and needs to improve the odds.

Failures in the transition to management occur because scientists believe that adding supervision skills is simply a learn-as-you-go experience. Stan Sewitch, a human resources (HR) consultant in San Diego, disputes this common belief: "Management is not an additional set of responsibilities requiring new skills to be added to one's professional repertoire," says Sewitch. "Management is an entirely different career from that of the individual contributor in science." Sewitch, formerly the director of human resources for Mycogen (San Diego, CA, USA), says that technical professionals too often believe that managing people is a skill to be acquired—not much different than learning a new laboratory technique. They find out too late that this isn't the case.

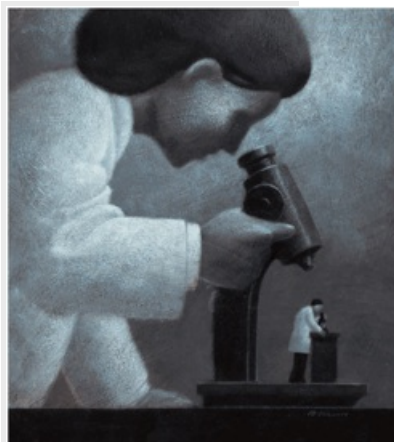
Doing science and managing?

Our first recommendation is to accurately describe this supervision opportunity to your intended management candidate. It is very tempting to tell that scientist that there will be a mix of both science and supervision in the job. Repeatedly, however, HR professionals caution us that once a supervisor has four to six reporting employees, doing bench science becomes very difficult. We believe there may be a dangerous misconception at work in some startup companies—that one can maintain a personal involvement in bench science while effectively managing a small group.

When recruiting for supervisor or group leader positions, recruiters will often ask the candidate what mix of science and management they would consider workable. The average response is that a 50/50 mix of science and supervision would be the furthest that they would stray from the bench. Unfortunately, these '50/50' supervisors find serious career discontent when their workday fills exclusively with management issues.

We've heard this story so often. One day they are solving challenging technical problems for their employer. The next, they are knee-deep in paperwork and personnel matters. Oops, no one told them they had become a manager!

“The new supervisor needs to constantly stay updated, because technical obsolescence can set in quickly.”



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Required skills

Jim Lewis, who teaches the course "The Engineer as Manager" at the [Lewis Institute](#) (Vinton, VA, USA), breaks down the required skills of a technical manager into these four categories: technical, organizational, conceptual and human relations. If you are currently considering adding supervisory responsibilities to a top scientist's or engineer's role, you'll need to look closely at this list and determine whether or not that person has shown an aptitude in these four areas. The more you stray from the ideal, the greater your risk of losing that employee.

Technical skills.

It is very difficult to direct a biotech research effort, which often includes helping others interpret the results of their work, if one is lacking in current science skills. We are certain that the technical skill area will not be a problem for your candidate to begin with; the issue here will be that the new supervisor needs to constantly stay updated, because technical obsolescence can set in quickly. After a year or two of management responsibility, a supervisor needs to spend some time getting recharged in their area of expertise. We'd recommend that you set up a program that allows managers to attend specialized meetings in their field and hedge off this technical 'drift' through regular updates.

Another problem often encountered with new supervisors is that they have difficulty completely delegating technical responsibility in areas of their own personal expertise. Instead of a coaching role, they step in and actually take over the job. This results in 'reverse delegation' where every issue that comes up in the new supervisor's area of excellence is brought to him or her for a solution. This manager's progression will be slow until he or she learns to properly delegate by assuming the role of coach and mentor instead of technical superstar.

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Organizational.

Strong planning and organizational ability is a must-have for a manager; analyzing that quality is one of the best ways to determine whether a person can move from science to management. Has your candidate displayed strong organizational abilities in previous duties at the bench? Are this scientist's presentations typically organized around a unifying theme, showing attention to detail and method?

A new supervisor must become an expert in the performance planning process that requires all reporting staff to have the tools they need to do the job. One of these tools is the knowledge of what the proper result looks like. New managers take some time to learn that when you are working through others, an ability to plan and organize how they work together is critical.

No one teaches this kind of organizational ability in grad school. And yet, many scientists and engineers assume that they can manage projects because they have always been able to effectively plan and organize their own responsibilities and those of one or two associates. Project management at the managerial level, however, entails resource planning and interrelationships that involve an entirely different perspective on commitments and timelines. We recommend that shortly after an employee is promoted to supervisor, formal training on project management be offered to that individual.

“A manager must be able to clearly visualize the desired goal. He or she then has to communicate this concept to others.”

Conceptual.

One key element of the planning process is seeing the big picture. Today's biopharmaceutical projects have a high degree of complexity. In order to properly use staff and other resources like suppliers and internal groups, a manager must be able to clearly visualize the desired goal. He or she then has to communicate this concept to others. Developing good conceptual visualization is something that seems to come naturally to some but is very difficult to teach to those who don't 'get it.'

To determine if your management candidate has this skill, you'll need to analyze whether or not he or she has shown this conceptual visualization in planning and executing experiments at the bench. The very best scientists and engineers draw upon an inner ability to see how a wide variety of seemingly unrelated ideas come together in a larger context.

Human relations.

We've all seen examples of wonderfully talented technical staff who, when given the chance to lead others, fail miserably because of their poor people skills. (Psst ... sometimes, in a startup biotech company, this is the founder!) When a technical wizard is promoted to supervisory responsibility despite this human relations problem, the new supervisor is in jeopardy. Generally, the employee will exit the firm—no one likes the loss of face involved in a move back to the bench.

“The problem is that many new managers think it is their

employees' responsibility to be flexible in their communication style.¶¶

We believe that these 'people skills' are often a communication issue; this is good news, because there are so many different ways to train your people in communication skills. The problem is that many new managers think it is their employees' responsibility to be flexible in their communication style. To this person, the new title of supervisor somehow means that they have earned the right to be inflexible. This couldn't be further from the truth. As psychiatrist Ross Ashby says, "In any system of men or machines, the element in the system with the greatest flexibility in its behavior will control the system."

Further recommendations

In the fast-paced world of a biotech startup, it is tempting to take anyone who shows some initiative and move him or her onto the management track. Although this may work for some, it is a certainty that along the way your company will lose a number of highly valuable technical contributors. Not everyone has the desire or raw material to be management. To recap, here are some additional recommendations on this transition from scientist to manager:

- Establish a dual-ladder system so there is parity between tracks, and credence given to those who want to do science for a living. A dual-ladder career track shows your employees that the company values them whether they intend to stay on the technical side of things or move over to management. Any HR professional that you employ will be able to assist you with this. If a full-time HR person isn't in the cards at this time, there are a number of biotech-specialist HR consultants in each cluster area who are available for this sort of contract work. (Write the authors for suggestions if you don't have these contacts locally.)
- Communication skills training can aid new supervisors in developing a flexible communication style, something that is often considered the backbone of a successful transition into management. This kind of training, given to new managers when they first take on their responsibilities, can help your company eliminate the growing pains from promoting technical professionals to managers.

If you need further guidance, we recommend this list of books for some thought-provoking ideas, as well as a list of companies that can help you train your scientist to become a manager (see [Box 1](#)).

Conclusions

To summarize, this article is a wake-up call for bioentrepreneurs who consider promoting a top technical contributor into management. A management candidate must exhibit strength in several if not all of the skill areas listed above; otherwise, their promotion could be risky for your new company. There is a personal jeopardy for your candidate, as well. The lack of solid managerial training and the associated risk of failure often have long-term consequences for the careers of technical professionals.

Box 1: Aids to successfully transition to management

Recommended reading

- Gaynor, G. *What Every New Manager Needs To Know* (Amacom, New York, 2003).
- Topchik, G. *The Accidental Manager: Get the Skills You Need to Excel in Your New Career* (Amacom, New York, 2003).
- Hickman, C. *Mind of a Manager, Soul of a Leader* (Wiley, New York, 1992).
- Holton, B. & Holton, C. *The Manager's Short Course* (Wiley, New York, 1992).
- Bell, C. *Managers as Mentors* (Berrett-Koehler, San Francisco, 1998).
- Fulmer, R. & Conger, J. *Growing Your Company's Leaders* (Amacom, New York, 2004).
- Sapienza, A. *Managing Scientists: Leadership Strategies in Research and Development* (Wiley-Liss, New York, 1995).

Training companies

- Wilson Learning Systems (Edina, MN, USA) <http://www.wilsonlearning.com>
- Blanchard Training (Escondido, CA, USA) <http://www.blanchardtraining.com>
- Cathcart Institute (Carlsbad, CA, USA) http://www.cathcart.com/cathcart_institute.html
- CareerTrax (Sedona, AZ, USA) <http://www.careertrax.com>
- Career Development Services (Rochester, NY, USA) <http://www.careerdev.org>