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7 Essential Skills for Science & Technology Leaders
by Gwen Acton, PhD

In science and technology companies, project teams are usually led by technical experts. However, the scientists and engineers leading the teams are often promoted to these management positions based on their technical expertise, and often have little to no training or experience in management.

Some new managers pick up the skills quickly, but many more are challenged by significant changes in how they are expected to work effectively. As individual contributors, scientists and engineers are responsible for their own work. As leaders and managers, they are required to get things done through other colleagues, which requires different skills and applications of existing skills.

In my experience working with technical experts in industry, there are some key leadership and management know-how that allow scientists and engineers to be more effective leading teams. This in turn ensures their organizations are more productive and innovative. Seven of these capabilities include:

1. **Providing feedback**: Many technical experts lack experience giving performance feedback to their colleagues other than specific technical details. Providing performance feedback is even more challenging when project team members have more technical experience or are at a higher level in the organization than the leader – a frequent occurrence. Therefore, scientists and engineers who learn techniques for providing effective feedback get better performance from their colleagues.
2. **Delegating**: Technical experts often have challenges "letting go" of their expertise and letting others do the work. They struggle with being able to do it better and faster themselves, and fearing that it will take too much time to explain how to do it. In contrast, those leaders who develop delegating skills are able to achieve better results from their teams.
3. **Managing Conflict**: Productive conflict is a natural and integral component of cutting edge and innovative research and development as new ideas are considered and tested. But many new technical managers lack the ability to distinguish it from unproductive conflict, and so either let too much unproductive conflict occur, or not enough productive discussion

and debate to take place. Therefore, technical managers who learn how to manage conflict enable their teams to be more innovative.

4. **Strategic Thinking**: Although they often have the ability to think strategically about their technical fields, technical experts often fail to apply these same skills to their leadership and management activities. The result is that they and their teams can get distracted by side projects, or have to "put out fires" due to inadequate strategic planning. On the other hand, scientists and engineers who are provided a framework for strategic thinking and planning can get more accomplished with the same resources.

5. **Influencing:** New managers often think that they can force others to do what they need them to do since they now have authority. But that approach does not work well with technical team members who like to have autonomy and contributions into the work. Technical leaders who are taught the techniques of influence build more engaged teams, and improve synergies throughout the organization.

6. **Communication Styles:** Scientists and engineers are often trained in a particular style of communication in their technical fields. As leaders and managers, they often fail to recognize that they need to adjust their style of communication for those with different personalities, or those in other departments. Technical experts who are provided with insight on recognizing and adjusting to different communication and behavior styles can get more accomplished.

7. **Leading Meetings:** The reality in most organizations is that everyone spends a significant percentage of time participating in meetings. The technical experts who lead these meetings in R&D organizations often lack the necessary know-how to plan and facilitate the meetings so that they are a productive use of time for everyone involved. The result is both frustration and wasted time. Therefore, companies that inform their meeting leaders about good meeting practices experience better outcomes from the meetings and less time wasted by valuable employees.

Companies that ensure their technical leaders and managers develop these skills will enable their technical teams to be as productive, innovative and effective as possible.

About the Author: **Gwen Acton, PhD** is CEO of Vivo Group, a firm that specializes in helping science and technology companies improve the leadership and influence skills of their scientists and engineers so they can be more productive.