

The Right Stuff: What Technical Professionals Look for in a Leader

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Are technical leaders substantively different than traditional leaders in manufacturing or service organizations? Are the required skills for technical leaders a completely different subset? Or are they simply applied differently?

In this research effort, technical leaders were asked to identify the traits and behaviors of the best technical leaders they had experienced. No surprise that the skill set includes the same leadership behaviors exercised over time in complex organizations. Perhaps the difference is in the training design required to relate these skills more effectively to the context of a technical environment, and to demonstrate the synergies with technical prowess.

The technical leadership challenge

The debate about what makes a good leader is certainly not a new one. Furthermore, the practice of promoting highly skilled specialists into positions of leadership, often to the dismay of both parties, has fueled a similar discussion. So, in the current environment where high technology seems to be a driver of complex organizations, what are the characteristics of effective technical leaders? Where is the emphasis? Do high tech organizations require TECHNICAL leaders? Or is it more appropriate to have LEADERS with knowledge of technology?

Whereas the up-and-coming, and mostly very young, technical leaders in today's organizations embrace these questions as a new dilemma, certainly it is not new. Even before the great computer revolution, when "specialist" could be substituted for "technical," there were many sad situations where the best teacher was removed from the classroom to become a mediocre principal. Or the best doctor was removed from the examination room to become the hospital administrator. The specialist versus leader dilemma was not solved then, so it rears its ugly head yet again in the world of today's "high" technology.

Nonetheless, the academic debate does not diminish the fact that complex and technical organizations demand the same high quality and visionary leadership that has led those organizations to become what they are. As technology continues to drive changes in the business landscape, meeting the demand for leaders who can both effectively manage technology and the highly educated technical people who perform technical wonders is becoming increasingly difficult. This demand increases the challenge for finding effective leader development programs to improve the application of leadership skills in a technical environment.

Leaders in a wide range of technical organizations decry the ineffectiveness of leader development in their organizations. Over and over again, the best technician is promoted into management with little or no preparation to exercise the skills of leading employees, peers and clients. Without preparation or understanding as to what makes a good technical leader, how can one be expected to perform well? This paradox becomes a self-fulfilling and circular prophecy in which a leader is named, not developed, performs ineffectively, sets a bad example for others who define the leader by position,

not practice, a new leader is named and follows the poor example of the predecessor. A few shining stars naturally appear, but they are not in sufficient numbers to change the paradigm.

In talking to technical leaders themselves, it appears that the root of the problem is in where to place the emphasis—in technical or in leader? A leader without sufficient technical background may not gain the respect of the followers. A technician without leadership skills is ineffective and creates chaos within the organization. This raises several questions: Is leadership in a technical arena different than generic leadership? Must leadership development be carried out differently for a technical audience?

The root of the problem

In an attempt to answer these questions, focus groups were conducted in four different technology firms. Each focus group included from six to ten technical leaders, all of whom held technical leadership positions. Using an appreciative inquiry approach, the facilitator asked participants about their most positive leadership experiences: When did they experience a leader who was effective in motivating, inspiring and gaining their commitment?

The discussions focused on both employee leadership (coaching and supporting direct employees) and client leadership (interactions with internal or external clients). The technical leaders were asked to recall the skills, traits, and behaviors that were most effective in each domain, and to rank them in order of importance for effective leadership and producing the desired results.

When asked directly about the comparative importance of technical skills versus leadership skills, many technical leaders will respond definitively with an emphasis on the technical side. To be effective as a leader in a technical organization, they say, leaders must understand the technology and be conversant in technical jargon. Yet, in this research the responses to questions about best leadership experiences show a clearly different portrait of the effective technical leader. They stated clearly that an effective technical leader has the same tried-and-true leadership skills of communication, relationship building, empowerment, and self-awareness. (See table 1) The following descriptions explain those skills in more detail.

Communication skills

All four sectors expressed that communication skills were foremost in effective technical leadership. The technical leader, like all leaders, is able to explain overall goals of the organization and the specific department, and explicitly describe how employees contribute to those goals.

The technical leader shares knowledge openly within the team, not hoarding knowledge as a basis of power or turf building. The technical leader keeps employees informed of what is going on outside one's specific technical stovepipe, and widely across the organization. Sometimes this skill is difficult to practice in that technical employees are highly engrossed in their own specific technology. Thus, the technical leader is able to explain how each technology affects the other in producing the desired results throughout the organization. Often technical experts are so far removed from the organizational bottom line, that this connection is unclear or even nonexistent to them.

The technical leader organizes the project, and clearly communicates the steps of the project and individuals' roles. Unless the systemic nature of the project is understood, technicians may work in a vacuum, simply throwing work "over the wall" without realizing interdependencies and potential efficiencies—or inefficiencies. It is the role of an effective technical leader, not only to understand these systemic relationships, but also to communicate them to all concerned. The technical leader may not have the skills to carry out the technical work, but sufficiently understands it to communicate with those doing the work.

Finally, the effective technical leader is accessible, and frequently sees the technical staff. The classic leadership practice of managing by walking around (MBWA) is even more essential for a technical leader because of the solitary nature of technical work.

Relationship building

The isolation associated with high tech work often leaves employees in a vacuum, interacting more with their computers or other equipment, than with other people. In order to build camaraderie and team spirit, the effective technical leader shows a true caring for the employees. The effective technical leader treats employees with respect, and demonstrates an awareness that the technical genius of the employees makes them equals in many respects, regardless of organizational hierarchy. Therefore, the effective technical leader values and recognizes these individual contributors.

As part of this one-on-one recognition, the effective technical leader knows each individual's strengths and weaknesses, demonstrating this awareness by providing opportunities for technical experts to learn new technologies, work on new projects, and receive training and development.

In demonstrating respect for the employees' skills, the effective technical leader leads in a direction commensurate with the organizational goals, but also allows the technical expert to provide specific answers or solutions. This requires the technical leader to listen to ideas and input from subordinates and to ask pertinent, probing questions. Often as the point person for accepting new projects or work schedule changes, the technical leader is adept at protecting the staff from over-commitments, by negotiating realistic deadlines and priorities.

A technical leader holds a specific position in the organization that provides the basis for relationship building. In this position, the effective leader shields the technical staff from the politics and outside forces, allowing them to do their jobs. Equally important, the effective technical leader stands up for the employees, even when they take technical risks. In order to be creative and work in cutting-edge technologies, mistakes are inevitable. If workers are penalized for those mistakes, the overall technological innovations will suffer.

Empowerment

In the technical arena, empowerment and delegation take on a unique meaning, one in which the intellectual capability and technical creativity of the worker is given respect and freedom to operate without undue interference. If the technical leader is adequately communicating so that the technical worker understands the relationship of the work to the organizational goals, then the technical expertise of the worker should reign supreme.

An effective technical leader trusts his/her workers to make appropriate decisions, and consistently removes the organizational obstacles in the way of these technical solutions. In doing so, the leader demonstrates a confidence in the technical staff, and openness to new ideas and alternative points of view.

Organizational hierarchy in technical organizations is typically less rigid, and technical experts often have an equal input in producing innovative ideas that substantively impact the organization's technical results. To allow this creative product, the effective technical leader does not micro-manage, but fosters ownership in others so that the product is the result of innovative expertise that is shared by all who must use the technology.

All of this is to say that technical workers require a more equitable type management and leadership than workers in a more traditional hierarchical and bureaucratic organization. However, they expect to be held accountable, and the effective technical leader finds the balance between latitude and oversight, and between creative innovation and organizational stability.

Self-awareness

A primary competency of effective leaders is self-awareness. This is no different for technical leaders. To be effective, the technical leader understands the personal impact that one has on others. This is no theoretical concept, but an actual cause-effect relationship that occurs within the specific environment of the business. Not only must the technical leader understand self, but also the context of the workgroup, the company and the industry.

The effective technical leader understands enough of the technology to speak the language and understand key interrelationships, but does not have to know how to do the technology. As one moves up in an organization, the work becomes less technical, and more administrative and personal. However, to build credibility, the effective technical leader realizes the importance of demonstrating an understanding of the technical environment.

Several personal attributes of a technical leader can reflect one’s necessary competence and self-management. The willingness to say “I don’t know” builds credibility and shows respect for technical experts who do know. The willingness to admit mistakes allows the leader to be a role model to the workers who are encouraged to make mistakes as they take on the cutting edge of technology. Also, learning from those mistakes, and publishing the lessons learned provides an opportunity for the leader to coach other employees.

The technical world has its share of crises as new technology fails or falters. The effective technical leader maintains emotional control, exhibiting calm in a crisis. This attitude provides protective space for the technical workers who must overcome the failure, and get back on track for success.

The model for an effective technical leader is one who is self-confident without being egotistical, one who is enthusiastic and arouses enthusiasm in others, and who exhibits a sense of humor.

Table 1:

Key Leadership Dimensions	
Communication	<p>Explains overall goals and how employees fit into the big picture</p> <p>Shares knowledge openly</p> <p>Keeps others informed of things going on</p> <p>Organizes project, communicates steps and roles clearly</p> <p>Accessible and manages by walking around</p>
Relationship-Building	<p>Cares about employees</p>

	<p>Treats employees with respect and equality</p> <p>Provides recognition and values employees</p> <p>Knows employee strengths and weaknesses</p> <p>Provides opportunities to learn and work on new projects</p> <p>Interested in employee development</p> <p>Provides direction to employees and asks good questions but does not always give answers</p> <p>Listens to ideas and input</p> <p>Does not over commit employees, negotiating realistic deadlines and priorities</p> <p>Protects employees from organizational politics and outside forces</p> <p>Stands up for employees even when they make mistakes</p>
Empowerment	<p>Respects the expertise of others</p> <p>Allows experts the freedom to be creative</p> <p>Trusts others to make decisions</p> <p>Removes obstacles in the way</p> <p>Involves experts in decision-making</p> <p>Shows confidence in subordinates</p> <p>Open to new ideas and other points of view</p> <p>Gives others an equal chance</p> <p>Does not micro-manage and fosters ownership</p> <p>Holds people accountable</p>
Self-Awareness	<p>Understands workgroup functions, the company, and the industry</p>

	<p>Has technical understanding</p> <p>Willing to say “I don’t know”</p> <p>Admits mistakes and learns from them</p> <p>Maintains emotion control and is calm in crisis</p> <p>Self-confident without being egotistical</p> <p>Enthusiastic</p> <p>Sense of humor</p>
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How to develop technical leaders

Clearly, the attributes desired in technical leaders, as suggested by those in technical leadership positions, are very similar to those attributes of leadership that appear in generic leadership literature. However, it is possible that the on-going debate about whether technical leaders should be TECHNICAL leaders or technical LEADERS, suggests that the language and context for exercising leadership in a technical environment is different than in a non-technical environment. This may be an important distinction when developing training and coaching programs for the technical leadership population.

For one thing, the emphasis in technology environments is on doing more than the theory. Many technical leaders are also working managers. Perhaps, leadership development efforts should focus more on mentoring, teachable moments, technical case studies and real-time learning than on traditional training classes of leadership theory.

When the focus group leaders were asked what they needed to improve on related to the four leadership attributes identified, they suggested several things that would increase their technical leadership effectiveness (see table 2, column 1). These responses were used as a basis for developing the leadership development strategies in table 2, column 2.. This is the start for a more tailored and comprehensive curriculum for effective technical leaders.

Table 2:

Identified Target Area	Leadership Development Strategies
<p>Communication—learning ways to consistently communicate, especially with distance and a diverse audience</p>	<p>Training with specific technical context examples, explaining strategies to reach technical performance goals through better communication</p> <p>Follow up real-time coaching to reinforce training, providing real-time feedback as circumstances occur</p> <p>Utilize teachable moments at every opportunity</p>
<p>Relationship-Building—finding time to get to know each member of the team, recognizing their strengths and weaknesses, what is important to them, and what motivates them</p>	<p>Training and practice by using vignettes and case studies</p> <p>Specific plans for how to approach each individual employee according to the motivators, values and needs of each</p>
<p>Empowerment —how to better coach and delegate</p> <p>—how to create an environment of equality, learning to balance teaching and developing people while showing mutual respect and asking good guiding questions</p> <p>—how to negotiate and mediate more than direct, learning to manage external influences to minimize the negative impact on the team while resolving conflicting needs and wants</p>	<p>Utilize leadership coaches to assist technical leaders to better coach their own employees</p> <p>Action learning group discussions to solve real-time problems, utilizing effective questions to think outside the box and recognize the values of diverse ways of thinking</p> <p>Utilize role plays and case studies that look for common areas of interest on which to build win-win solutions and resolve conflict</p>
<p>Self-Awareness—how to be aware of the impact one has on others and to better understand what leadership behaviors are more effective than others in the technical environment</p>	<p>Implement a required feedback process through rigorous quarterly reviews, an institutional 360 degree feedback survey, and external feedback coaches who shadow the manager and provide real-time feedback</p>

When all is said and done, what must technical leaders do?

Technical leaders are not exempt from practicing the tried-and-true best practices of all leaders. Therefore, the debate about what is more important—technical competence or leadership competence—should become moot. The important distinction is more likely that because technical leaders operate in a different environment than many traditional work environments, they may learn differently, and are more likely to accept “training” in a hands-on approach in a real-time setting than in the traditional classroom theory approach.

When all is said and done, technical leaders must:

1. Communicate clearly and often about organizational goals and their relationship to the technology.
2. Build relationships of mutual respect with technical experts so they can work in a motivating environment.
3. Provide an environment where expertise is valued and utilized in decision-making.
4. Understand the impact the leader has on the technical output of the team.