

**LEADERSHIP INSIGHTS
FOR ENGINEERS, SCIENTISTS, AND
COMPUTER PROFESSIONALS AS LEADERS**

by

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Foreword

If you're an experienced leader, read both this *Leadership Insights* and *Leadership Insights for Experienced Leaders*.

If you're a new or future leader, read both this *Leadership Insights* and *Leadership Insights for New and Future Leaders*.

Engineers, scientists, and computer professionals do face differences when they choose to lead. Not the least among these differences is overcoming society's stereotype, which holds that those best suited to engineering, science, and computer work will be nerds—lacking in behavioral skills.

Even the large bodies of knowledge found in engineering, science, and computer domains present career challenges when people from these disciplines choose to lead.

I've worked with hundreds of leaders from these three disciplines. Some are not performing well. More are spectacular leaders. Many are performing at a level that can be improved. This *Leadership Insights* explores who succeeds, why they do so, and how they succeed.

Acknowledgments

We first perceive the impact of leaders as followers. Parents, siblings, teachers, early bosses, peers all contribute to our learning how to lead effectively. Some show us examples of how not to lead. We call them politicians.

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Leadership Insights for Engineers, Scientists, and Computer Professionals as Leaders

I. What is Leadership?

- Leadership is getting others to want to do what needs doing. It contains vision and direction for the organization, and the behavioral skills needed to motivate performance well above the minimum. And in the case of leaders who are engineers, scientists, and computer professionals, it comes with a huge body of technical knowledge.
- From the bullet immediately above, note that leadership is made up of task skills, behavioral skills, and direction setting skills. All three are required for leader success.

II. What Leaders Must Be

- The acronym STEVE can help us remember who we must be as leaders.
 - Selfless
 - Trustworthy
 - Enduring—Adjust to new realities without compromising principles, and never, ever give up.
 - Visionary—Good news: This can be learned.
 - Effective communicator—This also can be learned.

III. Where Engineers, Scientists, and Computer Professionals Can Go Wrong as Leaders

- Both the effort required and the interest needed in successful technical professionals can cause them to over use task knowledge and skills. They can lead from “knowing” rather than inquiry. They can crowd out the knowledge and experience of team members, peers, even bosses. In worst cases, “I’m smarter than you are and I’ll prove it” becomes the basis for interpersonal competition.
- A common result is underdevelopment of the behavioral skills needed to lead successfully. Leadership, especially in early experience, is dominated by success with behavioral skills. Only later are direction-setting skills (strategic skills) added.
- Technical leaders can under-communicate, and when they do their skills in this area may be accidental at best. Conscious effort is especially needed in this domain.
- Thoughtful senior leaders don’t choose their smartest technical people to begin or advance in the leadership journey just because they’re the best technically. Thoughtful senior leaders look for good informal leadership behavior among all their technical staff. These informal leaders are then chosen for further development that leads to formal leadership roles.

- IV. How do Engineers, Scientists, and Computer Professionals Get Chosen to Lead?
- Foundation behaviors must be displayed. Two key dimensions are generosity of spirit and sincere interest in others. Do you share your assistance, leading others to their own learning discoveries? A generous spirit helps and serves without expectation of something in return. Interest in others has been called “other-centeredness.” How can you help? How can you serve the person or the goals of the organization?
 - Do you do just the minimum, or do you volunteer to do more, especially where you’ll learn? Curiosity and learning are hallmarks of successful leaders. So is accuracy, but only to a point. Perfectionists don’t make good leaders.
 - Senior leaders look for innovation. They look most for sustained interpersonal influence that is focused on the goals of the organization. They look for results. They don’t look for organizational politicians.
- V. Why Do You Lead or Want to Lead?
- If your motivations are status, money, power, perks, you either are or will become frustrated and possibly miserable.
 - Leadership is service to the organization, its customers, your team, and other stakeholders. Leadership can be a symphony of interruptions. It is decidedly non-linear. It is rarely rational. It is very unlike technical work, which values reason. Leadership values approximation, understanding human behavior and motivations, developing others, and results.
 - If your goal in leadership is to further your behavioral and eventually your direction-setting skills, leadership can be for you.
 - If your goal in leadership includes teaching others, the joy of seeing them grow and succeed, then no stereotype can keep you from succeeding.
- VI. The Power of Society’s Stereotype and How to Overcome It
- I encounter many engineers, scientists, and computer professionals who could be good leaders, but adopt the stereotype that they won’t be good at leadership. We aren’t born as baseball players or bicycle riders. But if we develop those interests, we can develop the skills to be good at these activities. **We learn to be good at leadership by leading and by continuing to learn how to lead more effectively.** The best leaders learn most from the people they lead, then from coaches, mentors, bosses, peers. Just as being a major league baseball player requires dedication and practice, so does leadership. Do you want it badly enough? For the right reasons?
 - Many in society don’t expect engineers, scientists, and computer professionals (and physicians and attorneys and finance/accounting professionals) to be good leaders. They think our task expertise in these large body of knowledge fields make us less competent leading people. This simply isn’t true unless we

make it so. When we're even okay we get noticed and supported because expectations were so low.

VII. Choosing to Lead

- Leading is never part time work. As a leader, you're always in that role, even at a community gathering. You're always "on" in your leadership role.
- Leading means you will need to give up the thought that you'll stay up to date in your discipline. This, along with learning all that "irrational stuff" about human behavior, dissuades many from pursuing a leadership career.
- If you can't be thrilled that a subordinate takes your place as team expert in your area of past expertise, you shouldn't choose to lead.
- Yes, you can turn down a senior management call to lead. Recognize that you will probably only be asked once more. From then on your future is entirely technical.
- You must imagine yourself successful in leadership like a leader whom you admire. Will you put in the effort to get that good?

VIII. Can You Accept One Rather Large Risk?

- While you're an informal leader, you must decide if you can commit to success in leadership.
- Once you're formally appointed as a leader, most organizations can't accept you not being a leader in the future. If you decide to step down for any reason, you'll likely have to leave the organization, or at least change work locations.
- There are exceptions to this. Some independent oil companies (Shell, for example) require a job change every 4 years. A leader today often does go into an individual contributor role next, to emerge as a leader the time after that.

IX. Three Career Paths

- Technical specialist path—this is you as an expert individual contributor throughout your career. With expertise and some communication skill, you get to be recognized internally and perhaps externally as a subject matter expert.
- Technical leader—Here you'll lead teams devoted to application of your discipline. Your subordinates are likely to be technical specialists. You'll rarely have leaders as subordinates unless you rise to the top of your discipline in your organization.
- General leader—*Harvard Business Review* calls this general management. It begins where multiple functions report to you. You'll have to lead finance, HR, legal, sales, marketing, and other disciplines in which you likely have not worked.

X. Being Chosen to Lead

- One gets chosen to lead by senior leaders who look for obvious choices among current team members. Just how does that work?
- An obvious choice to lead is someone who has already shown interest and success in leadership. It starts informally. You are seen to influence your peers, much like an 8 year old can influence his/her peers on a soccer field. Others turn to that person for direction and inclusion. You include, encourage, teach, work, care, communicate, show results.
- Lead informally first. Volunteer for committees, projects, task forces. Don't neglect your regular work. Volunteer for work others don't want. Do a lot with a little in the way of extra resources. Earn a low key reputation for results.
- Work each initiative so that it can't fail. How?! Interview everyone who will be affected. Most want the results, and don't want the work of getting there. Get a little help from many people to make the work complete quickly.
 - Here is an example: A subordinate once taught me that a highly visible development program of 5 days could be designed not to fail. Most give much thought to faculty selection. He and I interviewed each attendee, setting expectations and receiving them. The program was a success in each attendee's mind before it began, just because they'd been consulted, saw their input in the program, and had their expectations set by us as the designers of the program. Leaders can learn from subordinates.

XI. Learning to Lead

- Leadership success is 70% experience, 20% coaching and mentoring, and 10% formal learning.
- Get experience first. Don't overlook leading you've already done, even when young or in informal settings (university, community).
- Extract the lesson from each leadership experience, whether a positive experience or not. Then don't look back.
- Read. Start with *Seven Habits of Highly Effective People* by Dr. Stephen Covey. It isn't even presented as a leadership book. See how many ways it guides your leadership experience.
- Anticipate. Looking ahead is the essence of success. You should quickly encounter few surprise questions.
- Get coaches. More than one is best. Have one internally and an external one. Choose a coach for experience, candor, support, and availability. Ask me for a recommendation for the external role.
- Be a coach! You'll learn as much giving as receiving, probably more.
- Get at least two mentors. Think of them as leadership career advisors. They may sponsor you in the future, but don't ask for that. Such a request contaminates the relationship. They'll know your aspirations.
- Be a mentor! Do so with at least two more junior colleagues. You learn more from teaching than from being taught.
- Occasionally solicit input on your leadership from your team. Act on the advice you receive.

- Become a star communicator. Content and method both are vital. Study good speakers. Ask one to coach you. I do this kind of coaching.
- Don't get caught up in day-to-day decision-making. Take time to plan the future. "The future rarely gets enough votes around here."

XII. Passing On the Love of Leadership

- Leadership is about impact. Impact includes legacy. Your legacy should include a roster of leaders who were helped by you.
- The only caution here is that you must not become a competitive "king maker." Large ego senior execs can get caught up in building their own power base through those who "must" be "loyal" to them because the senior exec appointed the up-and-comer.
- If you find quiet satisfaction in having helped good leaders, you've got this dimension just right.

About the Author

Ken Graham is a consultant, author, lecturer, and leader. He has more than 25 years experience leading groups up to 131 people; developing leadership in experienced, new, future, high potential, and senior leaders; and coaching individuals and groups of leaders.

Ken's favorite professional activities include working with leaders individually or in groups, and speaking at conferences. See www.getenergyevent.com for Ken's contributions at the Dubai 2007 event and London 2008 event.

Ken experienced command and control leadership in a steel mill, where being alive and uninjured at the end of a work shift was an accomplishment. He experienced leaders who serve and leaders who teach early in career. Becoming a better leader and helping others do likewise are the focus of his work. He finds the ground for such growth especially rich in the developing world. Ken has visited or worked in 85 countries.

Current and recent clients include Shell, Nigerian National Petroleum Company, Technological University of Delft (The Netherlands), Boeing, Bury and Partners, IBM, Motorola, and Intel.

Ken's Ph.D. is in Strategy and Logistics from Penn State University, where he led Penn State Executive Programs. He has served as Vice President for Allstate Insurance, and most recently as Head, Global Leadership Development for Royal Dutch Shell Exploration and Production in The Hague, The Netherlands.

Ken has recently addressed conferences for GetEnergy, Limited, in Dubai (2006, 2007) for Management Centre Europe (2004), for Petroleum Training Journal in Abuja, Nigeria (2006), for

Southern Africa Development Council (SADEC) in Johannesburg (2007), and GetEnergy London (2008).

Since age 20, Ken has been a single engine airplane pilot. More recently he added floatplane flying to his license. Adventure trips have included Alaska, Yukon Territory, and Northwest Territories (to the Arctic Ocean). He owns a new type of short take-off and landing aircraft called a Savannah, which performs especially well in off-airport operations (think pastures, roads, etc.) See www.skykits.com for examples.

Working With Ken

If you're seeking an external coach, contact me at kengraham8@msn.com.

You may serve on a program committee for either a professional group or for an internal conference. If leadership is an appropriate subject for such a conference, I'd be pleased to be considered as a speaker. References are available.

Need to design an internal leader development session or program? Please call on the experience that my associates and I have.

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