

TIPS ON TRANSITIONS FOR TECHNICAL MANAGERS

TRANSITION SITUATIONS

Harry

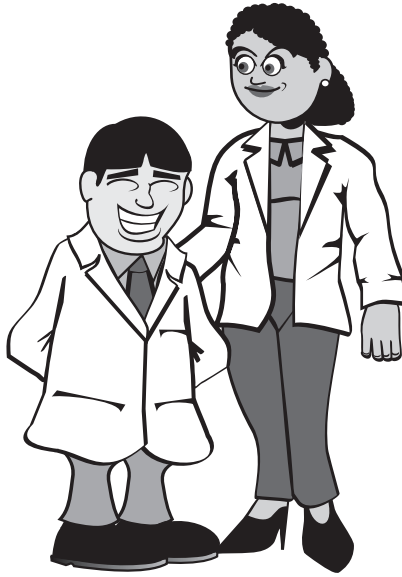
Harry took a job at a prestigious laboratory eager to use his skills for new research projects and get to work. After only a few months, his abilities in the lab were clearly recognized. Leaders of this department of 100 decided to assign him 2 technicians, so he could be even more productive. Thus, for the first time for someone just out of school and new to the organization, they offered Harry the chance to become a supervisor.

Harry was astonished. He had never considered managing anyone, although he had been in supervisory roles in other jobs as he worked to pay for school. He felt he had gone to school and studied so he could do research himself, not to watch someone else do it for him. He loved his work and was anxious to prove himself. He felt he had no time, and little interest, to supervise anyone. Harry was afraid to say no, and so said nothing. He went home upset that night, looking forward to getting some advice from his family.

How would you feel in his place?

How would you coach Harry, if you wanted him to take a supervisory role?

See the end of this chapter for how the situation was resolved.



Anna

Anna, a highly respected geologist, had been working successfully for 7 years. She published frequently and was often an invited speaker. Anna was pleased to be offered the role of group leader to oversee a group of 35 geologists. She appreciated the recognition, salary increase, and renewed respect among her colleagues. She was well liked and she expected to have no difficulties as a group leader.

Five months after accepting the position, Anna admitted to herself that she was unhappy. She also had no difficulty in assessing the reasons why. She lived to be in the field, working. In her prior role, she did field work for days at a time. In her current role, she spent most of her time in meetings and on administrative tasks. Her geology was mostly limited to talking with and reviewing her colleagues' work. Her reputation as a respected geologist was going to be jeopardized over time, but her biggest concern was being away from the work she loved. She missed her work and being outdoors.

If you were Anna, what would you do?

If you coached Anna, what would you say?

See the end of this chapter for how the situation was resolved.

Perhaps the most important, and certainly the least addressed, of the issues faced by technical managers are those experienced in transitioning to managing other professionals. Notice we didn't narrow this just to "new" technical managers or supervisors. Transitions occur in stages over an entire career. These transitions are not often recognized nor are their importance planned for or considered.

The most obvious transition occurs when a technical professional begins to manage one or more technicians or other specialists in his/her own field. One of the most challenging transitions cited by many workshop participants is that of supervising former peers—not knowing how to balance friend versus boss and being uncomfortable giving feedback. Certainly supervising a former colleague and friend presents challenges, but two even bigger issues for most are the shifts that need to occur in our motivations and work values. The ways we derive satisfaction from work and are comfortable being recognized need to change. This doesn't happen easily, as is seen in the answers to the questions:

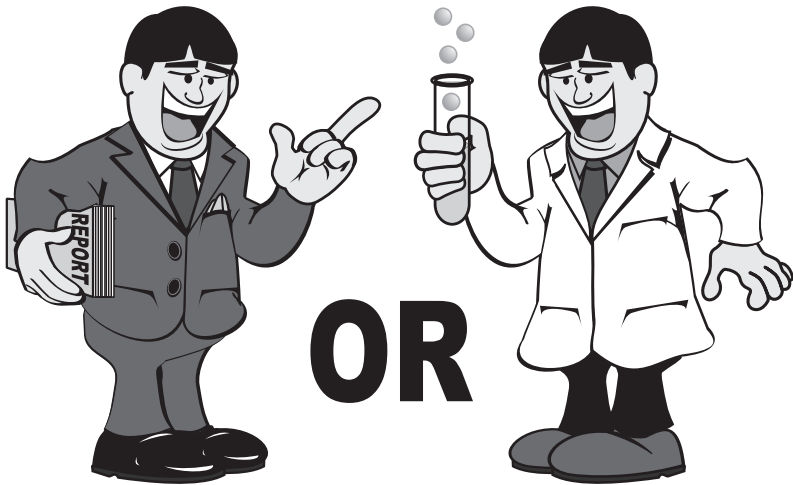
1. How many of you have worked for at least one outstanding manager?
2. How many of you have worked for two or more outstanding managers?

The answers vary somewhat by industry and profession but in the groups we have worked with, on average, only 25% say yes to the first question. Perhaps 5 to 10% say they have worked with or known more than one such individual.

As one of our colleagues, Gus Walker, is fond of saying—every organization says it hires the best, gives them the best facilities, and demands the best. So what happens to these "best" professionals when it comes to managing others? There seem to be four keys to making a successful managerial transition:

1. Motivation to help others succeed
2. Willingness to give credit to others
3. Openness to other's ideas
4. Interest in taking new roles

Success in technical work depends on both skills and knowledge. Early in a career as a manager, you are assumed to have both. As your career progresses, however, you are no longer the person most able to perform a specific technical task. In other words, managers (U) pass through transitions that reflect their ability relative to their employees (E). These managerial transitions are important factors in our career growth.



There are three broad ranges for U/E. The typical situation, when a technical professional receives a first supervisory assignment, is $U \gg E$. Usually, there are few direct reports, and they act as assistants or simple extensions of the professional. Since this relationship is similar to many found in universities, it is relatively familiar and comfortable, at least for the supervisor. However, greater skill, training, or experience in one area can convince U of superiority over E in other skills as well. This halo effect often leads to overdirection and micromanagement. It can also lead U to miss an E's special abilities. Generally, routine problem solving is more efficient in a $U \gg E$ situation with close direction. However, over time, groups are usually more effective when skills are distributed.

$U \approx E$ is the next stage and requires a transition. In this role, you and some of your employees have equivalent technical or other capabilities. The ability to handle these interactions is a critical test of managerial aptitude, and delegation is important to success.

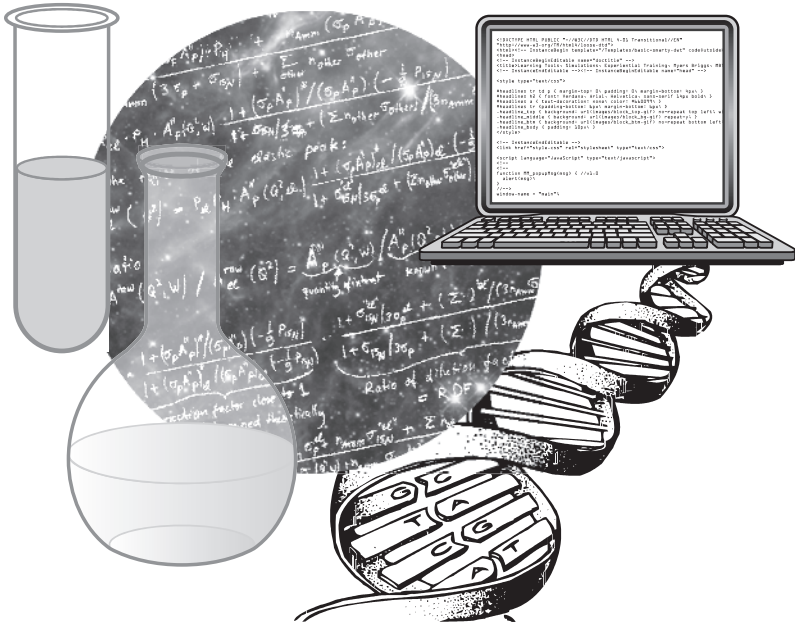
This is a difficult transition for several reasons. We often continue to rely on the close direction that was successful when $U \gg E$, even when it is inappropriate. Our training and experience often create strong feelings about the right approach to a problem, so we promote that approach. However, the same is true for employees who may resent having little influence on direction.

While problem-solving efficiency in $U \gg E$ depends strongly on supervisory control, success in $U \approx E$ depends more on collaboration and interactions with subordinates. This becomes increasingly important for generating creative solutions.

$U \ll E$ occurs when a manager has a large organization, is in a new position, or is dealing with interdisciplinary teams. It does not suggest incompetence. Rather, it reflects the reality that organizational goals require the efficient use of expertise and other resources. This requires that tasks are integrated and prioritized—both needed additional skills. Managers should have a broad understanding of goals and the experience and ability to achieve them. Compared with $U \approx E$, the manager has less need for personal technical competence. Authority and respect flow from general knowledge and the ability to manage resources.

These three transition stages are faced multiple times in technical careers and are most easily handled when they are recognized and thoughtfully considered.

Often we do not see ourselves as others do, and we make assumptions about our abilities to make such transitions. For this reason, one of us co-published the Manager–Scientist Inventory. We include it here as a way to gain insight into your managerial versus “scientist” preferences. Having a strong preference for managing or science does not ensure you will excel at either. Conversely, a low score does not mean you cannot become successful. The scores typically indicate a preference for one over the other and should give insight to those who have or will transition to the role of manager. The indicator has helped others better understand some of the issues they have experienced as managers or consider those they might face on moving to such a role.



MANAGER OR SCIENTIST? AN ATTRIBUTE INVENTORY

This section is adapted from the inventory by The Learning Key[®] published in Treher and Walker (2000), *Manager or Scientist: An Attribute Inventory*.

Extensive research into differences between managers and scientists/engineers has yielded consistent, distinct behavior patterns and preferences of these two groups. Data from the literature and from the authors' experience in managing technical managers and groups was distilled to provide the self-report inventory to highlight individual preferences toward managing others and doing technical work.

It is important to note that a strong profile in either direction does not preclude success. It does, however, indicate that you may face difficult transition issues.

Directions

Read each of the pairs of statements on the inventory and mark the index below. If you strongly agree with the statement on the left, circle 1. If you strongly favor the one on the right, circle 6. If you

are uncertain, circle the number that best represents your feelings. There are no right or wrong answers. Use your own views, not those you think others might have or prefer.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | In solving non-routine problems, the leader should provide support. | | | In solving non-routine problems the leader should give directions and ideas. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | I prefer to have all the facts before making a decision. | | | I am comfortable making decisions based on partial information. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | The organization I work for is my primary source of satisfaction and professional recognition. | | | I get satisfaction and recognition from outside professional contacts and associations. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | I prefer to do many varied things and not get into any one activity too deeply. | | | I prefer to focus my attention on one important thing and get to the bottom of it. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | I prefer to work in my own area of expertise and not get involved in projects crossing several technical disciplines. | | | I enjoy working as a generalist or on interdisciplinary problems. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 | I like to generate new information and results on problems. | | | I like to see that available information is found and used effectively. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | Decisions should be made analytically on the basis of the facts. | | | Political and human considerations should influence all decisions. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | I like to run things and be highly visible. | | | I prefer to influence decisions quietly through my own expertise and reputation. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |

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| | | | | | |
|----|--|---|---|---|---|
| 9 | I prefer to consider my ideas carefully and put them in writing. | I prefer discussing my ideas with others and giving presentations. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 10 | When something goes wrong, the individual responsible should take the blame. | When something goes wrong, the manager should take the blame. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 11 | I enjoy working with people from other departments and functions. | I prefer working with people with similar backgrounds and interests. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 12 | It is usually better to figure out what the real problem is than to take quick action. | I have a strong sense of urgency and like to react quickly when something goes wrong. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 13 | When my colleagues have arguments, I like to help resolve them. | When my colleagues have arguments, I prefer not to get involved. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 14 | People and decisions interest me more than things and ideas. | Things and ideas interest me more than people and decisions. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 15 | The most important thing is to understand and solve the problem. | The most important thing is to meet goals and objectives. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 16 | I work well under stress and with urgent schedules. Things drift without deadlines. | I work best when the pressure comes from my own interests and schedules are realistic. | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 17 | I enjoy interpreting the business goals of the organization and deciding how technology can help achieve them. | I enjoy theoretical and experimental work. In the long run it is the principal basis for growth and profit. | | | |
| | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|----|--|---|---|--|---|---|
| 18 | I like to identify a problem and solve it myself. | | | I like to see that problems are identified and solved as efficiently as possible. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 19 | I like to get to work early and leave late. A sense of urgency is important to the organization. | | | I like flexibility to come and go as my work demands. Creative insights cannot always be produced by schedules and pressure. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 20 | Generally, I study something only long enough to satisfy an immediate need. | | | Generally, I study something thoroughly so that I can understand and use it well. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 21 | I prefer shared accountability and interdependence. | | | I prefer individual accountability and independent work. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 22 | I believe that independent groups of specialists pursuing their own projects get the most done. | | | I believe that integrating technical groups is essential to getting the most done. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 23 | Organizational politics play a necessary role in setting goals and getting work done. | | | Organizational politics waste time and energy and get in the way of quality, creative work. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 24 | I sometimes ignore others' views in defending my position when I believe I am right. | | | I am flexible and willing to compromise my ideas for the organization's good. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 25 | A technical manager is a manager of people with technical training. | | | A technical manager is a technically trained person with additional management responsibilities. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |

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| | | | | | | |
|----|--|---|---|--|---|---|
| 26 | I like to solve problems in clever and unusual ways. | | | I like to solve problems in familiar and established ways. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 27 | Understanding how things work is a major source of stimulation for me. | | | Getting things done and seeing practical results is what motivates me. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 28 | I enjoy helping others find their own answers and solve their own problems. | | | I prefer to answer questions and solve problems on my own. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 29 | To be respected, a technical manager should always know more than his or her subordinates. | | | To be respected, a technical manager must be able to recognize, use and acknowledge subordinate strengths. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 30 | I like to speculate and approach problems from a theoretical and abstract point of view. | | | I like to identify the goal and work toward it in a practical and realistic way. | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |

MANAGER–SCIENTIST INVENTORY SCORE SHEET

To score the inventory, check your answer to each question and circle this answer on the scoring key (Table 1.1), where M = manager and S = scientist.

Then add the numbers circled in each column and enter that total at the bottom of the column. Calculate $M = 2M_1 + 1.5M_2 + M_3$ and $S = 2S_1 + 1.5S_2 + S_3$.

Subtract the smaller of M or S from the larger. The difference represents the preference for either the manager or scientist activity pattern.

Sum the numbers in each column on the manager side of the scoring sheet. Say you get $M_1 = 19$, $M_2 = 29$, and $M_3 = 7$. Then $M = [2(19) + 1.5(29) + 7] = 89$.

TABLE 1.1 Inventory Scoring Key

| Question Number | Manager's Activity Profile | | | Scientist's Activity Profile | | |
|--|----------------------------|--------|--------|------------------------------|--------|--------|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | 6 | 5 | 4 | 3 | 2 | 1 |
| 3 | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | 6 | 5 | 4 | 3 | 2 | 1 |
| 6 | 6 | 5 | 4 | 3 | 2 | 1 |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 8 | 1 | 2 | 3 | 4 | 5 | 6 |
| 9 | 6 | 5 | 4 | 3 | 2 | 1 |
| 10 | 6 | 5 | 4 | 3 | 2 | 1 |
| 11 | 1 | 2 | 3 | 4 | 5 | 6 |
| 12 | 6 | 5 | 4 | 3 | 2 | 1 |
| 13 | 1 | 2 | 3 | 4 | 5 | 6 |
| 14 | 1 | 2 | 3 | 4 | 5 | 6 |
| 15 | 6 | 5 | 4 | 3 | 2 | 1 |
| 16 | 1 | 2 | 3 | 4 | 5 | 6 |
| 17 | 1 | 2 | 3 | 4 | 5 | 6 |
| 18 | 6 | 5 | 4 | 3 | 2 | 1 |
| 19 | 1 | 2 | 3 | 4 | 5 | 6 |
| 20 | 1 | 2 | 3 | 4 | 5 | 6 |
| 21 | 1 | 2 | 3 | 4 | 5 | 6 |
| 22 | 6 | 5 | 4 | 3 | 2 | 1 |
| 23 | 1 | 2 | 3 | 4 | 5 | 6 |
| 24 | 6 | 5 | 4 | 3 | 2 | 1 |
| 25 | 1 | 2 | 3 | 4 | 5 | 6 |
| 26 | 6 | 5 | 4 | 3 | 2 | 1 |
| 27 | 6 | 5 | 4 | 3 | 2 | 1 |
| 28 | 1 | 2 | 3 | 4 | 5 | 6 |
| 29 | 6 | 5 | 4 | 3 | 2 | 1 |
| 30 | 6 | 5 | 4 | 3 | 2 | 1 |
| Add and enter the total of each column | $M_1=$ | $M_2=$ | $M_3=$ | $S_3=$ | $S_2=$ | $S_1=$ |

Sum the numbers in each column on the scientist side of the scoring sheet. Say you get $S_1 = 6$, $S_2 = 18$, and $S_3 = 24$. Then $S = [2(6) + 1.5(18) + 24] = 63$.

Take the absolute difference between S and M.

The difference represents your preference for either the manager or scientist activity pattern. In the example you get an excess $M = 26$. If the scores had been $M = 70$ and $S = 90$, you would find an excess $S = 20$, which is borderline.

INTERPRETATION

If you have a total score of $M - S$ equal to or greater than 25, it suggests you are somewhat more comfortable with the activities and work patterns of a manager than those of a scientist. If $S - M$ is equal to or greater than 25, the reverse is true. The higher the excess, the greater the discomfort level is likely to be for someone working in the other domain. Excess values less than 25 cannot be interpreted.

Please note that even a large excess value does not imply that you cannot perform well in the opposite domain. It does suggest that you may find your opposite pattern uncomfortable. At the first line of technical supervision there usually remains a large amount of hands-on technical work. However, with continued advancement to higher levels, the activities of scientists and managers become much more distinct, and the pressures resulting from high S or M scores can feel greater.

QUESTIONS TO ASK YOURSELF

For those who score high S and are S :

Do these results fit me?

What issues might I face if I become a manager?

What are likely to be my biggest challenges on becoming a manager?

Do I really want to go the management route?

For those who score high M and are M :

Do these results fit me?

What has helped me develop management skills?

Where might I have differing views from those of my staff?

How can I help others develop the attributes of a good manager?

For those who score high S and are M:

- Do these results fit me?
- What are some of my frustrations in managing technical work?
- What gives me the greatest satisfaction at work?
- How might I develop my management skills and interests?
- How might I gather feedback on how I am doing as a manager?

For those who score high M and are S:

- Do these results fit me?
- What gives me the greatest satisfaction at work?
- How might I develop my management skills?
- How can I demonstrate my management interests?
- Who might help me develop into a manager?
- How can I combine my technical responsibilities with my management interests?
- What are the roadblocks, if any, to my becoming a manager?

TRANSITIONS SITUATIONS—SOLUTIONS

Coaching Anna

This is a situation with little ambiguity. Anna has experienced the role, and short of delegating most of her responsibilities away, probably does not have the option to spend days working in the field. The group needs leadership, and her strong preference is one of an individual or team contributor. We would advise Anna to follow her heart and return to her previous role. She is motivated to be outdoors and do the research she loves, not help others do it for her.

Actual Anna did return to her former job (one of the only professionals we have known to “go back”). She is still happily working in the field 12 years later.

Coaching Harry

At this point Harry sees no good reason to become a supervisor. He loves his work and wants to keep at it. His motivation seems to be around the work itself, like Anna the geologist. However, his work

environment and new job expectations do not preclude him continuing his research. If you can help Harry see how supervising two techs will allow him to work on even more of his ideas at one time, he is likely to be excited at the prospect. He can continue to lead the work he wants and provide equally meaningful work to two others, testing some of his other ideas. This small team could actually help him generate new and perhaps even better approaches.

Actual Harry assumed this supervisory role. His own enthusiasm and love of the work was contagious, and his two direct reports became indispensable. His natural style of sharing information and seeking input from others created a strong team of three. Both technicians did well and grew in their roles. One began graduate school part time.

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