TRANSITIONING FROM TECHNICAL PROFESSIONAL TO MANAGER

Transitioning from Technical Professional to Manager

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For this post, I am going to make a slight departure from our recent series of articles on technology forecasting and technology scouting (which you can still find here, here, and here) and speak about a subject of great importance to the careers of my fellow scientists and engineers.

It has often been the general experience that when scientists and engineers attempt to make the transition into management, they may not do well. Sadly, as a reward for doing superb technical work, we sometimes tend to promote – or perhaps condemn – a first class scientist or engineer to a life of misery as a mediocre (or worse) technical manager. What that technical professional often fails to recognize is that he or she has made a career change. The new assignment requires a completely different skill set and, unless it is acquired and mastered, the transition can be painfully long and may even end in failure.

It is common knowledge to everyone who has held any type of job over the last several years that the world of work is profoundly changing. Down sizing, right sizing, reductions in force, outsourcing, reengineering, TQM, lean this or that, and innumerable other management fads have all resulted in an increasingly fluid work place. Combined with the diminishing half-life of a technical professional's knowledge base, this trend has led many engineers, scientists, and other technical professionals to seek or accept a transition from the world of technical work into management. In most instances, save for the most pathological of circumstances, such a promotion is seen by the organization's leadership as a reward for doing exemplary work. And, the scientist or engineer may relish the opportunity – some to take advantage of long-harbored entrepreneurial dreams, some undoubtedly believing it is the path to more lucrative opportunities in senior

management, and some because it has become increasingly difficult to maintain their technical skills over time in a rapidly changing technological landscape.

As scientists and engineers transition from technical work into management, the changing nature of their tasks requires a commensurate adjustment in their skill sets. Management responsibilities require the technical professional to shift from a task focus to a people focus. Furthermore, the required skills and orientation evolves further with increasingly responsible levels of management from the tactical and operational to the strategic. However, the skills and orientation required for effective management are often foreign to the technical professional. Moreover, a difference in value and belief systems may present a cultural impediment to the effective performance of his or her new managerial and leadership responsibilities.

Good engineers and scientists are technically and scientifically oriented. They are typically analytical, logical, rational, self-directed, task-oriented, and focused. Good managers, on the other hand, tend to be holistic, creative, people-oriented, and spatial.

Persons showing a proclivity for scientific activities, and who are prone to inventiveness and creativity, are often encouraged to seek educational experiences that develop the mental tools and skills to enable them to excel in that realm. The educational processes by which these tools are acquired are themselves typically analytical, logical, and focused. This process also, unfortunately, suppresses the development and application of the creativity that goes with them. To combat this tendency, we now see in engineering education concerted efforts to strengthen creative talents, maintain a balance between analytical skills and creative skills, and foster teamwork.

Problems of management involve people and other issues that require one to see an entire situation and plan a solution which balances many disparate issues concurrently. In management situations, it is frequently difficult to find two people who even agree on the problem, much less its solution. Good managers must function well with such ambiguity. They must respond creatively to conflict and recognize that no two situations are the same regardless of how similar they may appear at first.

The opportunities for engineers and scientists to obtain assignments as managers are plentiful. The better ones are continually promoted until the only option available is a new assignment in management because dual career ladders do not exist in most organizations. Engineers and scientists

are recognized as being intelligent and good problem solvers. They are always involved in the resolution of an organization's stickiest problems. Frequently, they are promoted because of their problem solving skills. Some engineers ultimately recognize that their real aptitudes are not toward science and engineering, but toward those careers driven less by logical analytical activities. In other words, they picked the wrong career upon starting college.

Finally, we must recognize that the half-life of a technical education is diminishing, and many engineers for a variety of reasons are either unwilling or unable to invest the time, energy, and perhaps money required to maintain technological competency in an era of rapidly changing technology. These individuals incorrectly conclude that transitioning into management will be a less stressful path.

Many engineers who have been promoted into management struggle mightily because they fail to recognize the need for a cognitive shift from a task orientation to a people orientation. In short, they fail to recognize they have made a career change. Some struggle through and achieve a modicum of success. Others make the required changes easily and excel. Still others fail miserably and end up in jobs that are both low tech and outside of management. In other words, they may end up in the dreaded "staff" positions.

However, and this is important, none of what I have said should be construed to imply that non-technically trained professionals should be assigned to first or second line managerial positions supervising engineers or scientists. That combination is equally, if not more, pathological than the converse. For reasons that I will discuss in a subsequent column, you cannot maintain a first class technical organization under the direction of a supervisor who may not appreciate the unique mindset of the technical professional.

In this series of articles, we will examine differences in the nature of engineering problems and management situations, and the implications they hold for successfully making the transition from technical professional to manager. We will explore the characteristics of technical professionals and examine their impact on the professional's managerial aptitude. We will also discuss the views of several senior executives concerning the required skill set for managers of technology in their organizations. A couple of popular situational leadership models will provide a framework for managing technical professionals. Finally, the series will conclude with some guidelines

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and recommendations for successfully making the transition from technical professional to manager.

Dear Readers, on April 23-24, 2015, I will be teaching a workshop on Technological Forecasting for Science & Technology Intelligence in Golden, Colorado. We'll discuss both trend analysis and the proper application of expert opinion in formulating strategic technology plans. We would love it if you would join us for this unique and valuable course. Details and registration can be found on the TEMI website here – RM

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