THE TECHNOLOGY IMPERATIVE

"He that will not apply new remedies must expect new evils; for time is the greatest innovator."
Francis Bacon (1561-1626)

The title of this book is The Management of Medical Technology. This is a three-part construct that includes: management, medical, and technology. We begin by examining the third component of the construct: technology.

Normally, texts on management, organization behavior, or new product development and innovation start out with the question: what is technology? There is an uncontrollable urge among so many writers to define the concept or construct of technology.

Technology as a construct is a complex descriptor of several and different views and perspectives of a human phenomenon which finds its expressions in management, science, organizations, and in virtually every aspect of our lives. Therefore the attempt we make in this book to define technology as an organizational and a social-economic imperative is a multifaceted and multiattribute perspective. Even with such a broad effort, the attempt to define technology will remain a mere scratching of the surface.

In its edition of July 28, 1987, the Chicago Tribune published an editorial in which it decried the decline in America's competitive position in world markets. The key point made by the newspaper's editors was the short-term view of American managers and their desire for short-term participation. The editorial stressed that: "Some managers may have been too timid to risk investing in equipment that may not show a payback for several years. When they have bought...

CASE 9

COMMERCIALIZATION OF MEDICAL TECHNOLOGY: THE NEUROKINETICS AND NEUROMOTION CASES

THE PROBLEM

Tom Rice, acting CEO of NeuroMotion Inc., was anticipating a problem. He had heard that NeuroMotion, a new medical device company, might receive only half of the $6 million financing it had planned for. He called business manager Tricia Cisakowski and chief financial officer Christine Stacey into his office to help develop a new strategy to deal with this potential setback.

Assuming full financing of $6 million, their strategy for penetrating the market was an aggressive plan involving the commercialization of all of NeuroMotion's products in rapid succession. The products were the Glove, the WalkAid, and the Tremor Control Cuff. Decreasing risk was a key strategy in the formation of NeuroMotion. Increasing the number of product offerings increased the probability that the company would generate significant sales, which made it a more attractive investment opportunity. In addition, if one product did not do as well as anticipated, perhaps another product would be more successful.

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E. Geisler et al., Management of Medical Technology
Their aggressive $6 million plan involved completing the reengineering and redesign of these products, getting regulatory approvals, promoting the products with high-quality collaterals (manuals and videos), gaining exposure to the market through multi-center clinical trials and close relationships with thought leaders, obtaining recognition through publications, and selling the products using an internal sales force and a concentric selling model. NeuroMotion planned to further add value through the patenting process, market research, and the development of a strong and knowledgeable team to manage the commercialization process.

If only $3 million was received from investors, NeuroMotion had to choose between following the aggressive commercialization plan developed for $6 million in financing or devising a slower, more cautious plan.

Rice, Cisakowski, and Stacey decided that a slower plan should involve the promotion of only two products—the Glove and the WalkAid. This slower plan meant that the products developed would be supported by less extensive clinical trials and there would be an overall reduction in spending on their development and lower quality collaterals. Consequently, sales would ramp up slower, and the company would be less attractive to follow-on investors. In addition, the longer it took to get a foothold in the marketplace, the greater the risk from potential competitors. NeuroMotion was depending on the WalkAid and the Glove to generate significant revenue to fund the development of follow-up products, such as the Tremor Control Cuff and other products being developed by the Neuroscience Department of the University of Alberta. Another drawback to the slower approach was that it would probably be more expensive in the long run than the aggressive plan.

A key plan of the go-slow plan was that the $3 million would last eighteen months, giving management a full year before they had to seek additional financing, if they chose to follow the aggressive plan with $3 million investment rather than $6 million, they would likely have to begin fund raising after only six months. None of them liked the idea of having to raise new funds at the same time as they were developing their products. They also considered whether NeuroMotion would be at an opportune stage to receive additional funding after only six months of operation, with no finished products, no sales and only partial management team in place, and so close to when the previous round of financing was raised.

Rice, Cisakowski, and Stacey agreed to weigh the pros and cons of each approach and then make a decision as to the strategy to pursue. A decision had to be made quickly. Both courses of action involved risk.

THE PRODUCTS

The two main start-up products for NeuroMotion are the Glove and the WalkAid. These products complement one another as they are both based on FES