

Chapter 6 Journeys in Strategic Space

A fine morning . . . we proceeded on a few miles to the three forks of the Missouri . . . those three forks are nearly of a size, the north fork appears to have the most water and must be considered as the one best calculated for us to ascend.

—*Journals of Lewis and Clark*, July 25, 1805

The decision facing Lewis and Clark at the three forks of the Missouri is an apt metaphor for the choices available to business strategists as they seek the best path toward competitive success. It will be useful to set the stage for consideration of such strategic choices by looking at the nature of the landscape within which they are made and the nature of the obstacles facing Control Data as it came upon the scene in the first decade of the computer industry's existence.

First, Control Data faced a truly tough short-term obstacle: with only \$600,000 in capital the company had to have a successful first product, and have it fast. The company accomplished that with the Model 1604 computer. A contract for the 1604 was obtained in the first six months of the company's existence, and when it was delivered

the company was less than three years old. Thus Control Data was born in an environment of doing “the impossible.”

There were much tougher long-term obstacles to survival and growth. Looming over the whole competitive landscape was mighty IBM. That was for starters. Control Data’s major competitors were divisions or subsidiaries of much larger companies: Bendix, General Electric, Honeywell, Sperry Rand, and Xerox. All these companies had proud histories and far greater resources.

Finally, the long-term issue was much more complex than just battling IBM and the other pretenders to industry leadership. Long-term survival meant successfully anticipating the rapid evolution of microelectronics and computer technology. In 1957 Control Data had to envision that a then mere laboratory curiosity, the integrated circuit and computers built using them, would in a short span of time become a commodity. At the same time just keeping up with the technology change of the moment was sufficient to try the innovative capacity of the best and brightest.

It is sadly ironic that in an industry arising from revolutionary technological change many of the companies that were pioneers generally failed to fully appreciate or understand the basic nature of technology evolution and its ultimate consequences to them and to the very structure of the industry. Of course, in the early stages of a new technology, it is common to have to do everything for oneself, in effect to be vertically integrated. But competitors in the early computer industry clung to this mode of meeting needs for such things as logic circuit components and peripheral equipment long after they were widely available and had little value as competitive differentiators. Control Data was the exception: in coping with this longer term issue Control Data demonstrated a precocious appreciation of strategy and the effect of technological evolution.

It was an exception not because of some secret storehouse of knowledge about technology and the evolution of strategy. In the beginning, there was no storehouse available to be had. It was an exception because we intuitively knew that among our strengths were creativity, an emphasis on value-added, and an inherent desire to use computing in the most complex applications possible. Control Data could never have been the low cost competitor. Value-added would be the hallmark of its strategic differentiation. The same decisions face companies today. For example, despite mounting recommendations from industry pundits and analysts for Apple Computer to produce a low cost computer to capture market share, it has steadfastly resisted—owing to its strategy to remain on the edge of new technologies and to be a premium value-added producer.

The preceding chapter explored the policies and practices in Control Data that allowed it to excel in the search for innovation and to achieve success in the difficult task of strategic technology management. In the next two chapters we will step back and look at strategy more abstractly—specifically to advance a conceptual framework for strategic thinking.

TECHNOLOGY AND STRATEGY

Creating and applying new knowledge—new technology—has long been the key to economic success. In today's world, however, business people feel a new urgency in this age-old task because of the increasing resources required for technological advances as well as the accelerating rate of global technology diffusion. This requires strategic thinking about technology beyond its application to new product development.

The task of managing technology is integral to, and essentially synonymous with, strategic management of the enterprise.

At this point it is probably necessary to remind the reader of the definition of technology: technology is not esoteric science and certainly not just information technology. Technology is *know-how*.

Effective technology management requires understanding the evolution, maturation, and diffusion of technologies throughout the global economy. Strategic understanding begins with appreciating the basic kinds of change that affect competitive strategies. Social, economic, and demographic change result from factors far beyond the control of any individual firm. Rather, the successful business must react to and try to use these changes to their advantage. Even in government policy making, where business has a clear responsibility to participate, the individual firm is unlikely to have a significant influence on decisions. Technology management, on the other hand, resides squarely with the company's leaders. Technology is potentially available from both society at large and from the minds and skills of the firm's employees. The managerial task is to capture this know-how more rapidly and effectively than competitors. *Thus technology is the change factor most responsive to creative management action.* Basic to this managerial task is creating an organizational culture where change is looked upon as an opportunity rather than a threat, and where the search for innovation is the focus of attention at all levels in the organization.

Such was the case at Control Data, so much so that few of us realized, much less articulated, that this mode of business management was a very different way of life. It was as natural and effortless as breathing. To be sure, there had to